INSTITUTIONAL CATALOGUE

2005 - 2012

UNIVERSIDAD DE LAS AMÉRICAS PUEBLA

2 HISTORY

3 OUR CAMPUS

5 ACCREDITATIONS

6 STUDENT INTEGRAL DEVELOPMENT

7 ADMISSIONS

12 ALUMNI COMMUNITY

13 EDUCATIONAL OFFER 2005

23 EDUCATIONAL OFFER 2006

486 EDUCATIONAL OFFER 2009

503 EDUCATIONAL OFFER 2011

509 EDUCATIONAL OFFER 2012

HISTORY

Universidad de las Américas Puebla was founded in 1940, in the nation's capital and was named Mexico City College. To clearly reflect the brotherhood between the United States and Latin American countries, at the start of the 60s, it changed its name to University of the Americas. By then, the prestige of its professors and research projects, as well as the distinguished Archeology program in Oaxaca, positioned it abroad and in Mexico as one of the best options for young people who wanted an excellent education with a bi-cultural vision.

In 1966, the Fundación Mary Street Jenkins provided the funds to move the university to Cholula, in the Santa Catarina Mártir hacienda, with over 80 hectares, located between the Popocatépetl and Iztaccíhuatl volcanos. Under its new name, Universidad de las Américas Puebla, with an innovative educational project that included opining not only the School of Art and Science, but the School of Engineering, and the School of Business, it received the support and official recognition of the federal Secretary of Public Education, the Southern Association of Colleges and Schools Commission on Colleges - SACSCOC, as well as business and government sectors of the region.

In 1985, the Universidad legally and ideologically separated from the Civil Association in Mexico City, and was now known as: Fundación Universidad de las Américas, Puebla. It was constituted with the philosophy: education with humanistic, scientific and universal spirit, as well as academic excellence and teaching freedom. It consolidated as the most important private education institution in the country.

At UDLAP, history has taught us that an active conscience and community participation is important to guarantee success in every member. Therefore, each of its accomplishments in different areas and fields of knowledge position it as a leading institution. In this sense, we cannot name Universidad de las Américas Puebla without recalling, at the same time, the great accomplishments of its Aztecas representative teams, who have prevailed, since its foundation, in the following areas: football, soccer, taekwondo, basketball, tennis, female and male athletics. Its participations have made it the leading institution in CONADEIP's Premiere League.

Aztecas have also performed in the cultural environment, offering society spectacles of impeccable artistic execution, such as: traditional dance, dance, chamber music, opera, theater, cinema, fine arts, to name some of the most relevant activities within its installations and cultural extensions, such as Chapel of Art in downtown Puebla.

The classrooms of the five UDLAP Schools (Social Science, Humanities, Engineering, Science and Business and Economics) that in the last years have modernized to meet the technological and scientific advances have housed, since then, seventy-seven generations who have stood out in the world because of their achievements in research, diffusion and consulting. The modern labs, classrooms, sports facilities, library, information technologies, and university colleges have created a favorable and privileged environment to study and develop.

OUR CAMPUS

Our campus is known for being one of the most diverse and green in the area. To date, it has 80 hectares, of which, 50.61 are green areas. Not only that, in UDLAP we have spaces so you can develop your activities safely.

Since its foundation Universidad de las Américas Puebla has been a meeting place of notable personalities of the academic, artistic, political, cultural and business world, who have found in UDLAP the ideal place to teach, create, study, learn and share.

Universidad de las Américas Puebla has great international prestige in different areas such as: science, engineering, scenic and fine arts, humanities, business and economics, among others.

At UDLAP, students and professors join the continuous change of the times. The true way to experience this is visiting our campus, walking in its gardens, talking with students and professors, visiting the classrooms, labs, residential colleges, sports facilities, libraries, computer rooms and cafeterias.

BUILDINGS

Our campus is known for being one of the most diverse and green in the area. To date, it has 73.2 hectares, of which, 50.61 are green areas.

Not only that, in UDLAP we have spaces so you can develop your activities safely. Among these you will find:

SCENIC ARTS ROOM

This expression area includes audio and lighting, seating, a stage, dressing rooms, storage, ticket office, and workshop.

LIBRARY

For your days and nights of studying, our library, as well as comfortable, fuses the traditional with on campus and online information services. There are 4 multimedia collaboration rooms and 3 bibliographical teaching rooms with computers, as well as cubicles for individual and group studies.

LABS

As part of your academic formation, we have science, health science, mechanical and industrial engineering, electronic engineering, telecommunication and water treatment labs. We also have a language learning complex, oral hearing room, financial simulation room, projection room, qualitative and innovation research labs, marketing and retail qualitative research rooms, a Gesell chamber, a mobile app lab as well as photography, television, dance and music labs and a 3D printer. We also have a lodging lab better known as San Andrés Hostel, open to the UDLAP community and overseen by students of the corresponding areas.

AUDITORIUM

The best place for congresses, plays and other events. Located in the center of campus, it is the most popular meeting area. It will be difficult for you to not find activities in it.

COMPUTER ROOMS

UDLAP has macro computer rooms with latest generation equipment at your service, with specialized software according to your needs. You may use these rooms 24 hours a day, 7 days a week.

MEDICAL SERVICES

To assure your wellbeing and physical health, we have a clinical analysis center and medical services that provide free service to community members who need it.

STUDENT CENTER

This is the preferred meeting place for the UDLAP community. It has services and activities that will keep you busy during your free time.

Here you will find from food services to office supplies, projection rooms or student organization offices.

SPORTS FACILITIES

Concerned with your academic and physical development, we have sports facilities that you may access daily to care for your physical wellbeing.

You will find:

- Pool
- Baseball field
- Futsal field
- Basketball courts
- Tennis courts
- Integral Rehabilitation Center
- Basketball court at the Moe Williams Gym
- Weight room
- Track and field
- American football field, Templo del Dolor
- Soccer fields

RESIDENTIAL COLLEGES

Equipped with dorms, projection rooms, auditoriums, cafeterias, among others, we have designed these spaces so you can live comfortably on campus. You may choose one of the four colleges, Cain-Murray, Ray Lindley, Ignacio Bernal, José Gaos, located on campus.

GREEN AREAS

Ideal to relax, share with your friends and carry out activities, which make it some of the favorite areas for the UDLAP community.

Among them you will find: the lake, the bonfire and meditation gardens, the couples garden, the main fountain, and Flag Plaza. All these areas are meeting and coexistence points for the university community.

ACCREDITATIONS

Universidad de las Américas Puebla teaches study programs with excellent academic quality through its faculty, that consists of 300 full-time professors, 95% of whom have graduate degrees, and 4 of 10 professors belong to the National Researcher System.

UDLAP gears its efforts in providing high quality educational services, through an integral formation of its students in a multicultural environment based on respect and international understanding.

All study programs have Official Validity (Reconocimiento de Validez Oficial - RVOE) granted by the Secretary of Public Education and are recognized by different universities in Latin America, Europe and the US educational system.

Our students may study abroad and widen their horizons or do professional practices in other countries, making their formation and professional development wider and more varied.

Also, we have Licenciatura Accreditation from COPAES (Consejo para la Acreditación de la Educación Superior, A.C.), CIEES (Comités Interinstitucionales para la Evaluación de la Educación Superior, A.C.) and other international agencies.

Fundación Universidad de las Américas, Puebla is accredited by the Southern Association of Colleges and Schools - Commission on Colleges to grant licenciatura, master and doctorate degrees. Contact the Commission on Colleges by mail (1866 Southern Lane, Decatur, Georgia 30033-4097, EUA) or by phone (+1 404 679 4500) to request more information on Fundación Universidad de las Américas Puebla's accreditation.

Fundación Universidad de las Américas, Puebla has, before the admission and permanence system of FIMPES through institutional development, accredited affiliation, for its campus located in Ex Hacienda Santa Catarina Mártir, 72820 San Andrés Cholula, Puebla.

INTEGRAL STUDENT DEVELOPMENT

ART AND CULTURE

We promote all kinds of culture! From theater, dance and painting, as well as singing, music and sculpture. UDLAP offers its community and the public, numerous presentations and artistic shows throughout the year, always looking to highlight different cultures and customs that coexist on campus.

SPORTS

Our sports students are an example of discipline, attitude, strength and work. The six sports representative teams that make up our university are always int he first places in their competitions, showing the meaning of being an UDLAP Azteca.

STUDENT LIFE

The university is not only a place to go to school. The experience and learning of coexisting with different lines of thought and participating in integration and recreation activities, contributes to the integral development of the university community. A UDLAP offers academic and cultural trips, business visits, bike tours, cinema club, and student organizations.

SOCIAL COMMITMENT

It is in university life that one builds knowledge, and therefore, at UDLAP, daily life is also constant learning. We want our students to have citizen ethics: humanistic and tolerant of leadership and success, that derives in contribution in equal opportunities in their environment.

INTERNATIONAL EXPERIENCE

UDLAP offers the opportunity to live an international experience through our diverse programs: academic exchanges, dual programs, language summers, academic summers and professional practices abroad.

OUTREACH WITH BUSINESSES (PROFESSIONAL PRACTICES)

The Department of Professional Practices promotes and supervises the relationship between the UDLAP student and organizations that offer professional practice projects in Mexico. Their main functions are:

- Establish agreements and collaborations.
- Promote professional practices projects with the university community.
- Manage and supervise student-organization outreach.
- Mediate and solve conflicts.

ADMISSIONS

ADMISSION PROCESS

1.- Present your exam

Register to take the exam on campus (http://www.udlap.mx/eligeudlap/) or consult the dates in which we will visit your city and schedule your test.

2.- First delivery of admission documents

Once you have passed the admission test, you can continue with the process and obtain your student number. For this, you must fill out the admission application (http://www.udlap.mx/eligeudlap/) and deliver these documents:

- Copy of your birth certificate or CURP
- Original transcript with cumulative GPA

These documents must be delivered to the Department of Student Community Attention, located in building 1, office 102, or send them through courier services at the following address:
Universidad de las Américas Puebla, Ex hacienda Sta. Catarina Mártir, 72810. San Andrés Cholula, Puebla, México.

Licenciaturas with additional admission requirements

If you plan to study the licenciaturas in International Business Administration, Dance or Medical Surgeon, there are additional requirements that you must meet.
Consult the requirements at: https://udlap.mx/eligeudlap/requisitos-adicionales.aspx

3.- Make your first payment and you will receive your course schedule *

Pay 6 units (in applicable cases).
**You will receive your course schedule one the early registration period begins.*

STUDY EQUIVALENCY AND REVALIDATION

Equivalency is an educational authority's administrative act or ruling that the institution's studies are equivalent for studies carried out in the National Education System, with those of the university.

Revalidation is the administrative act before an authorized educational authority, that grants official validity to studies done abroad, if they are comparable with studies in the National Education System and correspond to courses in the university's study program.

A comparison study determines which courses are accredited in the study program through equivalence or revalidation. This student has a fee for the student, which you can find on the university's webpage.

You may accredit courses with passing grades according to what is indicated by the education authorities.

The student has a maximum of 80 days from having started their first term at the university to hand in the required documents.

Equivalencies (national institutions) at the licenciatura level, deliver the following documents:

A. Study program of the licenciatura, duly sealed.

B. Syllabus of each of the courses considered for equivalency, duly sealed.

C. Original certificate of the partial studies at the university.

Equivalencies (national institutions) for master's program, deliver the following documents:

A. Graduate study program, duly sealed.

B. Syllabus of each course considered for equivalency, duly sealed.

C. Original certificate of partial studies at the university.

D. Notarized licenciatura professional license.

E. Certificate of licenciatura studies.

Revalidations (foreign institutions) at the licenciatura level, deliver the following documents:

A. Transcript or university certificate, physical or electronic, duly sealed.

B. Study program, duly sealed.

C. Syllabus of each of the courses considered for revalidation, duly sealed.

In case the documents are not in Spanish, you must deliver a simple translation of them.

Revalidations (foreign institutions) at the master's level, deliver the following documents:

A. Transcript or university certificate, physical or electronic, duly sealed. In case the documents are not in Spanish, you must deliver a simple translation of them.

B. Study program, duly sealed.

C. Syllabus of each of the courses considered for revalidation, duly sealed.

D. Notarized licenciatura professional license.

E. Certificate of licenciatura studies.

In case the documents are not in Spanish, you must deliver a simple translation of them.

CENTER OF STUDENT COMMUNITY ATTENTION (CACE)

The Center of Student Community Attention (CACE) is an area for students since their admission process, licenciatura or graduate studies, until their graduation, where they carry out different processes and academic movements.

INSTITUTIONAL SCHOLARSHIPS

These are financial aid granted to students who request it, considering academic, sports, art performance with no retribution for UDLAP (they are not credit loans).
It is indispensable to hand in the scholarship application in the dates established and enroll in the "early registration" period, according to the semester you are entering (January or August 2020), if you meet the requirements.
The main student commitment is to maintain their academic quality.
It is important to understand and meet the general and specific guidelines, as well as the scope, benefits and obligations of the scholarship you are interested in.

IMPORTANT ASPECTS

- The scholarships only apply to new students.
- Scholarships are not cumulative.
- The scholarship application process does not guarantee that you will receive it, as it is subject to the corresponding valuation by UDLAP.
- Late applications will not be accepted, nor incomplete documentation or that which does not meet with the requirements of the corresponding scholarship.
- When you receive the scholarship, it is mandatory to meet what is indicated in the Institutional Scholarship regulations.

APPLICATION PROCESS

1. Take the entrance exam (verify the type of scholarship you will request).
2. Do the admission process (first document delivery) in the Center of Student Community Attention.
3. Download, print, and complete the scholarship application and include the required documents.
4. Deliver the application in the scholarship area located in the Center of Student Community Attention in building 1, office 102, from Monday to Friday from 8:30 to 17:00 on the dates established (you can also send them through courier services

GRADUATION AND DIPLOMAS

GRADUATION

Steps to follow:

- Enroll in Thesis II or its equivalent.
- Meet with your Academic Department Head or Coordinator to see the advance in your study program, to guarantee that it is 100% finished.
- Deliver the Diploma Option in the Academic Department, who will validate and deliver (if applicable) the documents to School Services.

- Hand in the proof of payment in the Graduation Area in the Center of Student Community Attention, where you will fill out your Graduation Application to start the process.
- You will be notified on your university email if the documentation is complete, and you will schedule an appointment to sign the official document and diploma.
- Answer the Student Satisfaction Survey.
- Finish your Social Service (only Licenciatura)
- Not have any debts (tuition, UDLAP lottery, library, labs, scholarship service hours, etc.)
- Present the Professional and/or Grade Exam if it's the Graduation Option you chose.

DIPLOMA

- Input the information for your diploma.
- Review the information and application of physical diploma.
- Receive and review the PDF file before it is printed.
- Request the final printing.
- Request payment from the corresponding area.
- If it is a state process, hand in the SEP offices the file with the following documents: title, birth certificate, CURP, transcript, exam act, letter to the governor, payment of the federal or state offices, as applicable.

To register your diploma and receive your professional license, you must go to the offices of the General Professions Department in Mexico City:

PROCESS AREA/ELECTRONIC VALIDATION (MEXICANS WITH MEXICAN STUDIES)

- Hand in the files for Professional License processes.
- Review and receive professional licenses.

AUTHORIZATION AND REGISTRATION /FOREIGNERS AND MEXICANS WITH STUDIES ABROAD

- Enter the files for Professional License process.
- Review and receive professional licenses.
- The file must contain the following documents:
- Diploma, birth certificate, CURP, transcript, exam act, professional license application, payment. (original and copy).

COSTS

TUITION

For students to enroll they must pay the tuition.

- For licenciatura 6 units at the current cost.
- For trimester graduate studies, 4 units at the current cost.

The tuition cost is determined by multiplying the number of enrolled academic units by the current cost per unit. Each course has a defined number of units.

All information regarding payments and tuition is found at: https://www.udlap.mx/pagosycolegiaturas/

REFUNDS

If you have a credit balance, you may request the refund if said balance is due to excess payments. For refunds you must go to Unicaja in the Treasury Department, located in building 1 office 109 to deliver the necessary documentation in the dates established in: https://www.udlap.mx/pagosycolegiaturas/reembolsos.aspx
The procedure is as follows:

1. **Refund application, for which you must meet the following requirements:**
   - Letter to the Treasury Department that specified the reason why there is a credit balance.
   - Request the (only the shaded lines, also available at Unicaja).
   - Copy of official identification (Credencial de Elector or passport), present original for comparison.
   - For refunds greater than $20,000.00 you must present a letter of authorization from the parent or guardian who is registered in School Services, copy of their identification and contact information.
   - For refunds greater than 100 thousand pesos, you must present a letter or provenance of the resources.
   - If the student cannot do this process personally, the person who represents them must have a simple proxy letter and copy of identifications of both parties.

2. **Refunds.**
   - Once your refund has been authorized and after 15 working days at most, you may go to the cashier located in building I, office 109, from 8:00 to 13:00 and 15:00 to 16:00.
   - If your refund is less than the equivalent of one unit at the current fee, it will be given in cash. Please bring your official ID.
   - Amounts larger than the amount stated above will be refunded in check, which means you must deposit it in your account.
   - If you cannot go personally for your refund, you may request direct deposit, sending a copy of your account statement that includes the account number under your name.
   - If the refund is due to application of study units (UDES) or future student units (UFES), the refund will have a 10% administration fee.
   - If the refund is due to scholarships, education credits or lottery incentives, it will not apply.

WITHDRAWING FROM UDLAP

In case of temporary or definitive withdrawal from UDLAP, the student must cover the total tuition cost of the enrolled period, unless the withdrawal is in the times specified below. The withdrawal procedure must be done in the Center of Student Community Attention.
The number of days to calculate the waiver considers the first official day of classes of the academic period, and the date the process is started in the Center of Student Community Attention.

SEMESTER TERM

From the 1st to the 5th day of classes	**100% Waiver**

From the 6th to the 10th day of classes	**70% Waiver**
From the 11th to the 14th day of classes	**40% Waiver**
After the 15th day of classes	**0% Waiver**

PERIODO TRIMESTRAL O VERANO

From the 1st to the 2nd day of classes	**100% Waiver**
From the 3rd to the 5th day of classes	**70% Waiver**
From the 6th to the 7th day of classes	**40% Waiver**
From the 8th day of classes	**0% Waiver**

** Applicable only for tuition.*
** New students must meet the current regulations.*

ALUMNI COMMUNITY

The Alumni Department's objective is to maintain outreach with the largest UDLAP community, which are its over 30,000 alumni. They are fundamental, as they represent the university in the work force. They also support the creation of new spaces in professional and social fields, that contribute to the positioning of Universidad de las Américas Puebla.

The Office of Alumni Outreach works with other UDLAP areas to receive suggestions from alumni and the public. We are focused on providing a service to all graduates, from licenciatura and graduate studies.

We present the benefits of being an UDLAP alumni, maintaining and consolidating the graduate-institution link. We keep information regarding jobs and activities of our alumni, promoting their participation in events or publishing research articles (Contexto), or current topic articles (Visión ExaUDLAP), among others.

EDUCATIONAL OFFER

2005

UNIVERSIDAD DE LAS AMÉRICAS PUEBLA

LICENCIATURA IN ACTUARIAL SCIENCE

INTRODUCTION TO ACTUARIAL SCIENCE	**AT 100**	Introduce the actuarial science student to different fields in which they may develop professionally, so the student may have a more precise idea of the work an actuary does.
GENERAL STUDY I (ENGINEERING)	**EG**	
ANALYTICAL GEOMETRY	**MT 118**	The student will be able to calculate lengths and angles using vectors, equations of conic sections, and changes in the coordinate transform equation using rotation axes and translation. The student will calculate equations of lines, planes and spheres using vectors and be able to calculate the equations of curves and revolution surfaces.
INTRODUCTION TO MATHEMATICAL THINKING	**MO 110**	Instill logical reasoning methods. See mathematics as a geometric system. Understand and efficiently operate the algebra of propositions and set algebra. Handle group, field, and ring concepts. Skill in the operational management of relations and functions. Understand the axiom in real numbers.
SECOND LANGUAGE I	**LE**	
SECOND LANGUAGE LAB I	**LE**	
FINANCIAL MATHEMATICS I	**AT 142**	The student will obtain the basic knowledge of Financial Mathematics, to be applied to solving theoretical and practical problems, clearly understanding the deduction of mathematical expressions that are used for solving these problems.
DEVELOPMENT OF ACTUARIAL APPLICATIONS I	**AT 120**	Examine the computational tools that Microsoft Excel offers to solve modeling problems to facilitate decision-making in actuarial science.
EQUATION THEORY	**MT 129**	Introduce students to theory and polynomials to know how to use different techniques to calculate the root of polynomials with real and complex coefficients. The student will use algorithms to get all the roots of polynomials of third and fourth degree with real coefficients.

CALCULUS 1	MT 115	The student will demonstrate the properties and identities of natural numbers, using the mathematical induction method. Students will use inequalities use to analyze the behavior of functions. Students will understand the concept of limits and be able to calculate limits of functions and successions. The student will apply derivatives as instruments in the approach and solution of problems. The student will make graph functions using the concepts of limits, monotony, ends and concavity. The student learn the concept of function approximation and order of magnitude and will use algorithms and their implementation on the computer to display and compute functions.
FIRST LANGUAGE I	LI	
SECOND LANGUAGE II	LE	
SECOND LANGUAGE LAB II	LE	
FINANCIAL MATHEMATICS II	AT 242	The student will extend the knowledge acquired in Financial Mathematics I, and focus on types of annuities.
DEVELOPMENT OF ACTUARIAL APPLICATIONS II	AT 220	Introduction to the design and management of related databases by using Microsoft Access and understanding that what provides for the development of information systems in the actuarial environment.
LINEAR ALGEBRA	MT 219	A the end of the course students will be able to recognize the concepts of vector space, linear transformation matrix determinant, eigenvalue, and similarities transformation. Students will use these concepts and the properties of each element defined by them to describe matrices using linear transformations and base changes. They will calculate the determinants of square matrices, and cofactors those elements. They will know how to obtain the eigenvalues and eigenvectors of square matrices and recognize the concepts of linear, bilinear and quadratic functions, and orthogonal and unitary transformation. The student will know how to use these concepts and the properties of each element defined by them to determine the normal forms of matrices. They will apply the tools of linear algebra to various geometry, linear programming. and differential equations problems.
CALCULUS II	MT 210	The student will calculate integrals and integral approximations and apply them to the calculation of

		areas and volumes. The student will use trigonometric functions, exponential and logarithm functions to solve problems, and decide whether a succession of functions converges exactly or uniformely. The student will calculate the Taylor polynomial of a function and estimate its remainder. The student will understand the Taylor series.
FIRST LANGUAGE II	**LI**	
III	**LE**	
SECOND LANGUAGE LAB III	**LE**	
DEMOGRAPHICS	**AT 230**	At the end of the course, the student will be able to use the techniques used to measure demographic phenomena in research or studies of a certain population of interest.
PROBABILITY I	**AT 222**	The student will gain basic knowledge of probability. They will be able to calculate basic probabilities of events.They will know and apply the most important univariate models for both discrete and continuous random variables in practical and theoretical problems.
CALCULUS III	**MT 211**	At the end of the course, students will be able to decide whether a subset of Rn is open, bounded, compact or connected. They will approximate functions of several variables and apply these concepts to calculate limits of functions in Rn, providing arguments to decide whether a function of variables is bounded, continuous, uniformly continuous and if it reaches its extreme values. They will find the sets of functions of several variables and in the case of two variables, use them to sketch graphs of the corresponding functions. They will outline graphs and sets and approximate extreme values by using a computer. They will obtain and interpret the best linear approximation of a function of several variables. They will calculate derivatives using the chain rule, and approximate functions with Taylor polynomials and estimate their remainders. They will solve optimization problems using computater techniques with several variable, They will use inverse function and implicit function theorems to decide whether a system of nonlinear equations is solvable.

ORDINARY DIFFERENTIAL EQUATIONS	**MT 261**	At the end of the course the student should be able to find the general solution of first order linear equations, finding the exact general solution of Bernoulli differential equations. They will decide whether the initial value problem of a differential equation of the first order has only one solution and in simple cases solve them, and solve problems involving nonlinear first order differential equations and qualitatively analyze and interpret their solutions. They will find the general solution of second order linear differential equations with constant coefficients and decide whether the problem of differential values has a unique solution and in simple cases solve them. They will solve second order non-homogeneous linear differential equations by the indeterminate coefficient method, as well as parameter variables and Laplace transforms. They will propose, solve and analyze simple harmonic motion. They will solve differential equations with regular singular points using the Frobenius method. They will find the general solution of a system of two or three first order linear differential equations with constant coefficients and outline its phase diagram. They will find the critical points of a two or three nonlinear equations of first order and determine the type of stability of those points, solving problems involving systems of nonlinear differential equations of the first order.
MICROECONOMICS	**EC 104**	This course aims to develop an analytical framework to conceptualize economic problems, for example, how to allocate scarce resources for multiple purposes. During the course different theories will be presented to make economic decisions that individuals and society face. Specific applications of these theories will also be discussed. The syllabus covers the following topics: consumer theory, supplier theory, factor markets, goods market in partial equilibrium, general equilibrium and public economy. In this course the use of calculation is avoided as much as possible and graphical analysis is used intensively, since the objective is to develop economic intuition in students without emphasis on the mathematical formalization.
ACTUARIAL MATHEMATICS I	**AT 312**	The student will understand the relationship between utility theory and insurance. They will know and apply mathematical principles necessary to create individual risk models, both in the short and long term. They will understand and use mathematical tools to build different biometric features used in the actuarial calculation, and use mathematical models associated with the main types of life

		insurance. They will know and apply the mathematical tools to calculate annuities and income applying the necessary mathematical tools to calculate pure premiums and reserves.
PROBABILITY	**AT 322**	The student will obtain the basic knowledge of multivariate models for random phenomena. These will provide the basic tools to find the function distributions of random variables and learn about the most important applications to statistical inference. They will learn about the basics on the issue of convergence of successive random variables.
OPTIMIZATION IN BUSINESS AND INDUSTRY	**AT 382**	Students will understand and apply models and algorithms to solve linear programming optimization problems.
CALCULUS IV	**MT 310**	At the end of the course, the student will calculate line, multiple and surface integrals, applying the theorem of variables change for multiple integrals and outline their proof. They will use Stokes theorems of Green and Gauss divergence for both comprehensive assessment and to demonstrate theoretical results of the integration theory. They will outline the proofs of Stokes, Green and Gauss divergence theorems.
GENERAL ACCOUNTING	**CC 112**	Students will understand and prepare financial information to make good decisions and implement business strategies in the general economic environment.
GENERAL STUDIES II (SOCIAL SCIENCE)	**EG**	
CURRENT MATHEMATICS II	**AT 362**	The student will explain the effect of expenses in the calculation of premiums and reserves for life insurance. They will acquire technical skills to model premiums and reserves for life insurance, when it included in the effect of various expenses. They will understand the nature of the guaranteed values, developing practical calculations associated with the guaranteed values. They will know and explain the technical nature of additional benefits, and develop relevant models manage and and explain the nature of certain types of insurance.
RISK THEORY	**AT 410**	The student will understand the basics, techniques and applications of risk theory.

STATISTICAL INFERENCE	**AT 373**	The student will effectively implement the methods of data description will have strong knowledge of methods of statistical inference with regards to point estimation, interval estimation and principles of hypothesis tests.
FINANCIAL MARKET MODELS	**AT 343**	The student will acquire basic knowledge to assess and manage profitability.
OPTIMIZATION IN BUSINESS AND INDUSTRY II	**AT 384**	The student will use inventory models, nonlinear optimization, network and simulation to solve real problems, by correctly identifying the issues and using computer softwares to solve them.
MATHEMATICAL ANALYSIS I	**MT 311**	Students will understand the similarities and differences between open set and continuous functions, on the one hand, and measurable set and measurable function on theother. They will know and use the concepts of measurable set, measure, measurable functions, understanding why there is a need to replace the Rieman type integral for more general and flexible integrals that are more suitable for dealing with limits. Specifically, they will understand the role played when considering broader classes of sets and functions, namely measurable sets and measurable functions. They will understand and use the Lesbesgue integral, working with the differentiation of a comprehensive and mastering the concept of absolute continuity. They will learn about the Lp spaces in their overall development and convergence issues and work approach of these spaces.
ACTUARIAL MATHEMATICS III	**AT 414**	The student will understand the main technical elements involved in damage insurance. They will know the statistical tools necessary to for insurance damage, applying the general technical procedures necessary to calculate premiums and reserves in property insurance.
RISK MANAGEMENT	**AT 408**	The student will understand the main elements of business management theory and the importance of actuarial science techniques in its implementation.
STATISTICAL METHODS	**AT 473**	The student will master methods to propose and test hypotheses with optimal properties to solve real life statistical problems. They will receive theoretical knowledge and will be able to apply parametric and nonparametric hypotheses.

STOCHASTIC METHODS AND SIMULATION	AT 400	At the end of the course the student will be able to identify the most used stochastic models commonly in the actuarial science.
ADVANCED OPTIMIZATION	AT 484	Students will understand heuristics methods to solve difficult problems, and use them to solve diverse problems.
ACTUARIAL PROJECT	AT 494	The student will apply the scientific method on a research project to acquire and generate new knowledge on actuarial science topics. This course will carry out the first stages of the scientific method to propose a topic or problem to solve as thesis work, and develop the corresponding proposal for their thesis.
PENSIONS	AT 411	The student learn the theory, technology and uses of private pension plans.
GENERAL INSURANCE THEORY	AT 462	The student will understand the basic principles and concepts of life and damage insurance, as well as the basic techniques of this area.
FORECASTING	AT 474	At the end of the course, the student will be able to apply different forecasting techniques based on regression models and time series.
BUSINESS FINANCE	AT 446	The student will determine the optimal capital structure of a company, understanding the multiple funding sources that large companies have at their disposal. They will analyze mergers and acquisitions cases, applying the concepts learned to analyze specific cases in the Mexico.
THESIS I	AT 495	Assess the philosophical relevance of technology as well as the ways in which it has conditioned the organization and performance of human practices.
GENERAL STUDIES III (HUMANITIES)	EG	
GENERAL STUDIES IV (SCIENCE)	EG	
GENERAL STUDIES V (BUSINESS)	EG	
THESIS II	AT 496	The student will develop the necessary research, writing and editing of the final chapters of his thesis and obtain approval from the director to present and defend the thesis in a professional exam.
ELECTIVES		

MATHEMATICAL ANALYSIS II	**AT 410**	The student will study metric or topological properties of a general space in which the notion of distance is defined. They will understand that topology is introduced by a metric, if each vector has a space "length" and the rules under which it operates with these lengths correspond to some geometric principles. They will know the importance of linear spaces in which the norm is defined by a function of two vectors, for example, domestic product. They will understand linear problems by using operators and linear functions, studying the topological vector spaces and basic properties of convex sets.
SAMPLING	**AT 423**	Students will understand the main advantages of probability sampling design and apply it in the design of actual surveys.
STATISTICS SEMINAR	**AT 436**	Understand and be able to apply statistical techniques related to one or several current topics in this area.
STATISTICS SEMINAR	**AT 480**	The student will learn important tools to solve optimization problems found in business and industry. The student will learn new models to solve optimization problems that arise in real life. The student will develop skills to propose models such as those discussed in this course. The student will learn to give solutions, exact or approximate, to develop models and be able to properly interpret the obtained results..

EDUCATIONAL OFFER

2006

UNIVERSIDAD DE LAS AMÉRICAS PUEBLA

LICENCIATURA IN BUSINESS ADMINISTRATION

INTRODUCTION TO ADMINISTRATION	BA 100	Analyze administrative process theory, defining its strengths and weaknesses and studying some theoretical alternatives that can solve deficiencies.
BUSINESS MATH	MA 117	Solve problems economic, administrative, accounting, and social sciences problems, efficiently using set algebra in solving problems of their professional area. Also, graph functions related to current business problems. Use algebra concepts to graph functions related to current business problems.
GENERAL STUDIES I	RG	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
MARKETING FUNDAMENTALS	MK 111	Analyze marketing elements in detail to develop marketing strategies, which include the target market analysis and marketing mix.
BUSINESS CALCULUS	MA 135	Analyze and use the differential and integral calculus techniques to solve classical optimization and other economic-administrative, accounting and social sciences problems for one or more variable functions.
FINANCIAL ACCOUNTING	FC 112	Analyze the different types of organizations and different financial statements to make proper decisions.
PRINCIPLES OF MICROECONOMICS	EC 201	Master the basics of microeconomic analysis, identifying their use and representing contemporary economic phenomena.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	

ORGANIZATIONAL BEHAVIOR	BA 201	Develop and understand the dynamics of people in organizations, to conduct themselves assertively, and thus contribute to organizational goals.
STATISTICAL ANALYSIS	AE 242	Analyze and interpret data through extraction, recognition, classification, description, presentation, and inference based on theoretical and practical foundations to understand, use, compare and reorganize information.
COST ACCOUNTING	FC 231	Apply different methods to cost products and services, interpreting the resulting financial information to make decisions.
BUSINESS COMMUNICATION	BA 105	Master verbal and nonverbal communication tools. Act as a communication agent achieving informative and persuasive achieving objectives in organizations' public relations.
PRINCIPLES OF MACROECONOMICS	EC 202	Master the basics of macroeconomic analysis, identifying their use in describing contemporary economic phenomena.
SECOND LANGUAGE III	ID	
HUMAN RESOURCES MANAGEMENT	BA 211	Analyze and apply the most important HR concepts and functions within organizations.
FORECASTING METHODS	AE 265	Master conceptual and operational management models and multiple linear regressions. Identify the type of forecasting model used to solve problems in companies, applying the best forecasting method for real problem. Design and usecomputer software using templates.
MANAGERIAL ACCOUNTING	FC 333	Interpret and use the information generated by cost accounting for proper planning and control of a company.
MARKET RESEARCH	MK 220	Specify and provide accurate and relevant information to reduce uncertainty in decision-making. Describe the importance of market research as an essential tool of marketing organizations. Use the basic guidelines to develop research and measurement methods to study problems related to the marketing of goods and services.
GENERAL STUDIES II	EG	

LEGAL BUSINESS FRAMEWORK	**DE 332**	Understand the rules that apply to businesses (people or businesses) and commercial transactions to master the corporate, credit, commercial and labor contracting regulations, and use them in business.
GLOBAL BUSINESS ENVIRONMENT	**NI 310**	Analyze the international environment and master the concepts, terms and theories that serve as an introduction to subsequent courses.
DECISION MODELS I	**AE 270**	Master the use of linear programming models. Identify the type of linear programming model used to solve real problems business, marketing, finance and operations management.
FINANCIAL MANAGEMENT I	**FC 361**	Play the role of financial manager in companies; the different ways in which they operate; understand the basic tools of financial analysis and planning; evaluate financial performance by analyzing financial ratios and cash flow, asset structures and financial structure; understand the valuation of financial assets, the value of money over time, risk analysis and performance; the characteristics and ways to valuate fixed income securities and common shares in the domestic and international markets.
INFORMATION MANAGEMENT I	**BA 230**	Assess the strategic importance of information technology in organizations and develop the skills to use it as support in operations, decision-making and competitive advantage of organizations.
GENERAL STUDY III	**EG**	
LABOR LAW	**DE 362**	Analyze the history of the right to work and its relevance to the formation of the national labor system to meet the standard that governs it and apply it in labor relations, both individual and collective. Solve problems and develop labor law and union contracts.
NEGOTIATION AND SALES	**MK 320**	Develop different business models to support decision making in business and in business-people relations, which lead to negotiation. Also, identify the most important sales elements.
OPERATIONS MANAGEMENT	**BA 350**	Master different areas of operations management and troubleshooting within a management context.
GENERAL STUDY IV	**EG**	

INFORMATION MANAGEMENT II	**BA 330**	Understand the elements and key technologies of e-business and develop the skills to apply Internet technologies to business processes.
BUSINESS STRATEGY	**BA 410**	Implement and develop the main conceptual, methodological and technological tools for organizational strategy.
SUPPLY CHAIN	**BA 450**	Design, operate and improve a company's supply chain, maintaining the system up to date in lieu of advancing technology. Solve problems within a management context, especially in relation to the interaction of the company with its suppliers and consumers as well as to improve the performance and quality of supplies and the distribution of products or services.
INVESTMENT PROJECTS	**FC 463**	Evaluate investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk. Consider market, technical, administrative, legal, financial, economic and social factors. Understand their emphasis on financial and economic study.
KNOWLEDGE MANAGEMENT	**BA 430**	Understand the strategic importance of knowledge in organizations, developing skills to promote their creation, coding, storage and use.
BUSINESS DEVELOPMENT	**BA 400**	Analyze the main features of micro, small and medium companies (SMEs), and the attitudes and skills of entrepreneurs. Understand the steps and requirements to establish a new business.
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
BUSINESS SIMULATION	**BA 420**	Analyze administrative problems using simulation games and business simulations.
PROJECT MANAGEMENT	**BA 460**	Manage projects effectively by using a comprehensive and consistent methodology that is valid for any type of project, including organizational, technical and human.
LEADERSHIP	**BA 401**	Understand the leadership styles best suited according to the type of organization and develop the necessary skills to manage

		personnel to create teams that solve human resources problems.
GRADUATION PROJECT I	**BA 490**	Outline a graduation project, which will be submitted to the Business Administration Department for approval or rejection. Define a bibliography and research methodology.
GENERAL STUDY VI	**EG**	
GRADUATION PROJECT II	**BA 491**	Develop and defend a graduation project, which will be presented to the Business Administration Department for discussion.
MARKETING ELECTIVES		
CONSUMER BEHAVIOR	**MK 215**	The course introduces students to consumer behavior and its use in strategic marketing. It provides an understanding of the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.
PROMOTION AND POSITIONING	**MK 210**	Identify the promotion variable in the marketing mix. Also, understand the importance of positioning in marketing strategy and develop tools that enable the student to design positioning campaigns.
SERVICE MARKETING	**MK 216**	Analyze service organizations and adjust marketing goals and strategies accordingly.
PROMOTION STRATEGIES	**MK 310**	Master promotion tools and develop strategies according to the needs of marketing organizations. Also, develop integrated communication campaigns.
ELECTIVES		
INTERNATIONAL MARKETING	**NI 390**	Develop a global perspective and analyze the growing market opportunities and challenges in international business. Master the tools to diagnose the global environment, implementing marketing strategies and developing an international marketing plan.
INTERNATIONAL BUSINESS ADMINISTRATION	**FC 464**	Understand the financial management of international businesses, understanding how international financial markets work, emphasizing the forex market, understanding various derivative financial instruments and their use for hedging and speculation. Understand mechanisms used in the international financial market to make international investments or obtain international financing to be able to

		minimize risk and maximize the profitability of international companies.
INTERCULTURAL MANAGEMENT	**NI 240**	Provide students the basics needed to identify the main cultural differences between blocs of countries, to be able to develop effective management strategies. Master international expansion strategies and understand their implications in the administrative processes of organizations.
HUMAN RESOURCE MANAGEMENT	**NI 481**	Identify key decision areas of Human Resource Management in an international context. Determine problems and propose solutions.
ORGANIZATIONAL CHANGE	**BA 411**	Understand change and organizational development and the necessary tools to effectively manage the social changes occurring in organizational systems and subsystems.
BUSINESS ECONOMICS	**BA 412**	Use tools and economic models to analyze a company's structure and human resources.
TRAINING AND DEVELOPMENT	**BA 415**	Use staff training techniques to optimize and develop human resources in companies.
CONSULTING	**BA 417**	Study and analyze consulting in organizations and describe the operations necessary to intervene and plan changes in companies.
FOOD SERVICE MANAGEMENT CASE STUDY	**HR 400**	Solve problems, based on real situations in this industry.
NEW BUSINESS APPROACHES	**HR 420**	Identify and analyze business methods in the hospitality industry. Outline the conceptual and operational framework related to each business. Address and debate issues related to each business focus and develop solutions. Determine which is the best business alternative in each situation.
FINANCIAL MANAGEMENT II	**FC 362**	Master the financial functions to determine the cost and capital structure and management of working capital. Analyze and develop methods, cases and problems on cost of capital, financial leverage, theories of capital structure, dividend policy, cash management, accounts receivable and inventories as well as the analysis of short-term financing sources.
MEXICAN ECONOMY	**EC 221**	Analyze the current Mexican economic problems and model a long-term retrospective analysis. Develop a bridge between economic theories seen in other courses and the reality of the Mexican economy.

DERIVATIVES MARKET	**FC 442**	Outline and manage different derivative instruments to manage a business' financial risk. Make hedging and speculative strategies, valuing each instrument to determine its value.
ELECTIVES IN INTERNATIONAL MARKETS		
INTERNATIONAL MARKETING	**NI 390**	The main purpose of this course is to make students develop a global perspective of markets, thus becoming aware of the growing opportunities and challenges in international business. The student will acquire the necessary tools to diagnose the global environment to develop marketing strategies and implement these skills through the development of an international marketing plan.
INTERNATIONAL FINANCIAL MANAGEMENT	**FC 464**	Understand the financial management of international businesses, understanding how international financial markets work, emphasizing the forex market, understanding various derivative financial instruments and their use for hedging and speculation. Understand mechanisms used in the international financial market to make international investments or obtain international financing to be able to minimize risk and maximize the profitability of international companies.
INTERCULTURAL MANAGEMENT	**NI 240**	Provide students the basics needed to identify the main cultural differences between blocs of countries, to be able to develop effective management strategies. Master international expansion strategies and understand their implications in the administrative processes of organizations.
INTERNATIONAL HUMAN RESOURCES MANAGEMENT	**NI 481**	Identify key areas of decision of the International Human Resource Management in an international context. Determine the problems of this function and propose solutions to them.
ELECTIVES		
CONSUMER BEHAVIOR	**MK 215**	Analyze the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.
PROMOTION AND POSITIONING	**MK 210**	Identify the promotion variable in the marketing mix. Also, understand the importance of positioning in marketing strategy and develop tools that enable the student to design positioning campaigns.
SERVICE MARKETING	**MK 216**	Analyze service organizations and adjust marketing goals and strategies accordingly.

PROMOTION STRATEGIES	**MK 310**	Master promotion tools and develop strategies according to the needs of marketing organizations. Also, develop integrated communication campaigns.
ORGANIZATIONAL CHANGE	**BA 411**	Understand change and organizational development and the necessary tools to effectively manage the social changes occurring in organizational systems and subsystems.
BUSINESS ECONOMICS	**BA 412**	Use tools and economic models to analyze a company's structure and human resources.
TRAINING AND DEVELOPMENT	**BA 415**	Use staff training techniques to optimize and develop human resources in companies.
CONSULTING	**BA 417**	Study and analyze consulting in organizations and describe the operations necessary to intervene and plan changes in companies.
FOOD SERVICE MANAGEMENT CASE STUDY	**HR 400**	Solve problems, based on real situations in this industry
NEW BUSINESS APPROACHES	**HR 420**	Identify and analyze business methods in the hospitality industry. Outline the conceptual and operational framework related to each business. Address and debate issues related to each business focus and develop solutions. Determine which is the best business alternative in each situation.
FINANCIAL MANAGEMENT II	**FC 362**	Master the financial functions to determine the cost and capital structure and management of working capital. Analyze and develop methods, cases and problems on cost of capital, financial leverage, theories of capital structure, dividend policy, cash management, accounts receivable and inventories as well as the analysis of short-term financing sources.
MEXICAN ECONOMY	**EC 221**	Analyze the current Mexican economic problems and model a long-term retrospective analysis. Develop a bridge between economic theories seen in other courses and the reality of the Mexican economy.
DERIVATIVES MARKET	**FC 442**	Outline and manage different derivative instruments to manage a business' financial risk. Make hedging and speculative strategies, valuing each instrument to determine its value.
ELECTIVES IN HUMAN RESOURCES		
ORGANIZATIONAL CHANGE	**BA 411**	Understand change and organizational development and the necessary tools to effectively manage the social changes occurring in organizational systems and subsystems.
BUSINESS ECONOMICS	**BA 412**	Use tools and economic models to analyze a company's structure and human resources.

TRAINING AND DEVELOPMENT	**BA 415**	Use staff training techniques to optimize and develop human resources in companies.
CONSULTING	**BA 417**	Study and analyze consulting in organizations and describe the operations necessary to intervene and plan changes in companies.
ELECTIVES		
CONSUMER BEHAVIOR	**MK 215**	Analyze the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.
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SERVICE MARKETING	**MK 216**	Analyze service organizations and adjust marketing goals and strategies accordingly.
PROMOTION STRATEGIES	**MK 310**	Master promotion tools and develop strategies according to the needs of marketing organizations. Also, develop integrated communication campaigns.
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INTERNATIONAL FINANCIAL MANAGEMENT	**FC 464**	Understand the financial management of international businesses, understanding how international financial markets work, emphasizing the forex market, understanding various derivative financial instruments and their use for hedging and speculation. Understand mechanisms used in the international financial market to make international investments or obtain international financing to be able to minimize risk and maximize the profitability of international companies.
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INTERNATIONAL HUMAN RESOURCES MANAGEMENT	**NI 481**	Identify key areas of decision of the International Human Resource Management in an international context. Determine the problems of this function and propose solutions to them.

FOOD SERVICE MANAGEMENT CASE STUDY	**HR 400**	Solve problems, based on real situations in this industry
NEW BUSINESS APPROACHES	**HR 420**	Identify and analyze business methods in the hospitality industry. Outline the conceptual and operational framework related to each business. Address and debate issues related to each business focus and develop solutions. Determine which is the best business alternative in each situation.
FINANCIAL MANAGEMENT II	**FC 362**	Master the financial functions to determine the cost and capital structure and management of working capital. Analyze and develop methods, cases and problems on cost of capital, financial leverage, theories of capital structure, dividend policy, cash management, accounts receivable and inventories as well as the analysis of short-term financing sources.
MEXICAN ECONOMY	**EC 221**	Analyze the current Mexican economic problems and model a long-term retrospective analysis. Develop a bridge between economic theories seen in other courses and the reality of the Mexican economy.
DERIVATIVES MARKET	**FC 442**	Outline and manage different derivative instruments to manage a business' financial risk. Make hedging and speculative strategies, valuing each instrument to determine its value.
ELECTIVES IN SERVICE MANAGEMENT		
SERVICE MARKETING	**MK 216**	Analyze service organizations and adjust marketing goals and strategies accordingly.
FOOD SERVICE MANAGEMENT CASE STUDY	**HR 400**	Solve problems, based on real situations in this industry
NEW BUSINESS APPROACHES	**HR 420**	Identify and analyze business methods in the hospitality industry. Outline the conceptual and operational framework related to each business. Address and debate issues related to each business focus and develop solutions. Determine which is the best business alternative in each situation.
CONSULTING	**BA 417**	Study and analyze consulting in organizations and describe the operations necessary to intervene and plan changes in companies.
ELECTIVES		
CONSUMER BEHAVIOR	**MK 215**	Analyze the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.

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ORGANIZATIONAL CHANGE	**BA 411**	Understand change and organizational development and the necessary tools to effectively manage the social changes occurring in organizational systems and subsystems.
BUSINESS ECONOMICS	**BA 412**	Use tools and economic models to analyze a company's structure and human resources.
TRAINING AND DEVELOPMENT	**BA 415**	Use staff training techniques to optimize and develop human resources in companies.

FINANCIAL MANAGEMENT II	**FC 362**	Master the financial functions to determine the cost and capital structure and management of working capital. Analyze and develop methods, cases and problems on cost of capital, financial leverage, theories of capital structure, dividend policy, cash management, accounts receivable and inventories as well as the analysis of short-term financing sources.
MEXICAN ECONOMY	**EC 221**	Analyze the current Mexican economic problems and model a long-term retrospective analysis. Develop a bridge between economic theories seen in other courses and the reality of the Mexican economy.
DERIVATIVES MARKET	**FC 442**	Outline and manage different derivative instruments to manage a business' financial risk. Make hedging and speculative strategies, valuing each instrument to determine its value.
ELECTIVES IN FINANCE		
FINANCIAL MANAGEMENT II	**FC 362**	Master the financial functions to determine the cost and capital structure and management of working capital. Analyze and develop methods, cases and problems on cost of capital, financial leverage, theories of capital structure, dividend policy, cash management, accounts receivable and inventories as well as the analysis of short-term financing sources.
INTERNATIONAL FINANCIAL MANAGEMENT	**FC 464**	Understand the financial management of international businesses, understanding how international financial markets work, emphasizing the forex market, understanding various derivative financial instruments and their use for hedging and speculation. Understand mechanisms used in the international financial market to make international investments or obtain international financing to be able to minimize risk and maximize the profitability of international companies.
MEXICAN ECONOMY	**EC 221**	Analyze the current Mexican economic problems and model a long-term retrospective analysis. Develop a bridge between economic theories seen in other courses and the reality of the Mexican economy.
DERIVATIVES MARKET	**FC 442**	Outline and manage different derivative instruments to manage a business' financial risk. Make hedging and speculative strategies, valuing each instrument to determine its value.
ELECTIVES		
CONSUMER BEHAVIOR	**MK 215**	Analyze the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.

PROMOTION AND POSITIONING	**MK 210**	Identify the promotion variable in the marketing mix. Also, understand the importance of positioning in marketing strategy and develop tools that enable the student to design positioning campaigns.
PROMOTION STRATEGIES	**MK 310**	Master promotion tools and develop strategies according to the needs of marketing organizations. Also, develop integrated communication campaigns.
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ORGANIZATIONAL CHANGE	**BA 411**	Understand change and organizational development and the necessary tools to effectively manage the social changes occurring in organizational systems and subsystems.
BUSINESS ECONOMICS	**BA 412**	Use tools and economic models to analyze a company's structure and human resources.
TRAINING AND DEVELOPMENT	**BA 415**	Use staff training techniques to optimize and develop human resources in companies.
SERVICE MARKETING	**MK 216**	Analyze service organizations and adjust marketing goals and strategies accordingly.
FOOD SERVICE MANAGEMENT CASE STUDY	**HR 400**	Solve problems, based on real situations in this industry
NEW BUSINESS APPROACHES	**HR 420**	Identify and analyze business methods in the hospitality industry. Outline the conceptual and operational framework related to each business. Address and debate issues related to each business focus and develop solutions. Determine which is the best business alternative in each situation.
CONSULTING	**BA 417**	Study and analyze consulting in organizations and describe the operations necessary to intervene and plan changes in companies.

LICENCIATURA IN HOTEL AND RESTAURANT MANAGEMENT

HOSPITALITY INDUSTRY	HR 120	Assess development opportunities that the hospitality Industry offers. Analyze the components that make up the hospitality industry and their importance. Analyze the background of hotels and restaurants, their characteristics, organization, importance and relationship between the components that make up the hospitality industry. Use different hotels and restaurants products, their features and structures, and how they market them using their properties, franchising, management contracts and affiliations chains.
HYGIENIC HANDLING AND PURCHASING OF FOOD	HR 146	Properly apply the principles of hygienic food handling to prevent contamination and disease, from shopping and storage to preparation and service. Master the principles and procedures of the how to process food and beverages, as well as the product descriptions commonly used in food service systems.
GENERAL STUDIES I	EG	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
BUSINESS MATH	MA117	Solve problems economic, administrative, accounting, and social sciences problems, efficiently using set algebra in solving problems of their professional area. Also, graph functions related to current business problems. Use algebra concepts to graph functions related to current business problems.
SECOND LANGUAGE I	ID	

SECOND LANGUAGE LAB I		
HOTEL MANAGEMENT	HR212	Apply the general concepts of hotel management, primarily customer service related to the host cycle. Demonstrate the ability to infer the importance of electronic distribution channels within e-marketing context. Understand how to segment hotel product lines to determine the hotel operation system (PMS) that best suits it. Use each of the phases of the host cycle system relevant market segments.
GENERAL TOURISM THEORY	TR131	Outline the components of international tourism and analyze how they are related. Analyze tourism as a social phenomenon, its political, economic and socio-cultural implications. Discuss the travel behavior of tourists. Analyze international tourism marketing and the role of various international organizations. Analyze the social, economic and environmental impacts generated by tourism. Identify trends in international tourism.
INTRODUCTION TO FOOD PREPARATION AND SERVICE	HR 148	Apply the techniques necessary to manage the preparation of dishes for breakfast service in the laboratory, hygienic food handling, converting recipes from the English system to the metric system, standardizing recipes and table service.
PROFESSIONAL WRITING	PC214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
FINANCIAL ACCOUNTING	FC112	Analyze the different types of organizations and different financial statements to make proper decisions.
BUSINESS CALCULUS	MA135	Analyze and use the differential and integral calculus techniques to solve classical optimization and other economic-administrative, accounting and social sciences problems for one or more variable functions.
SECOND LANGUAGE II	ID	
SECOND LANGUAGE LAB II		
HOTEL OPERATIONS	HR220	Apply host cycleS through an inclusive exercise that simulates the operation of the front office. Master the basic knowledge to operate any PMS on the market, and key their interfaces.
RESTAURANT OPERATIONS PRACTICE	HR226	Handle and apply the various ingredients, the most important products and cooking techniques applied to practical food processing.
FOOD OPERATIONS	HR 236	Implement and manage food service operations.

PRINCIPLES OF MICROECONOMICS	**EC201**	Master the basics of microeconomic analysis, identifying their use and representing contemporary economic phenomena.
COST ACCOUNTING	**FC231**	Apply different methods to cost products and services, interpreting the resulting financial information to make decisions.
BUSINESS FUNDAMENTALS	**BA111**	Analyze administrative process theory, defining its strengths and weaknesses, while studying theoretical alternatives that can solve the differences.
SECOND LANGUAGE III	**ID**	
SECOND LANGUAGE LAB III		
LODGING	**HR320**	Analyze the different procedures that apply in each of a hotel's front and back areas. A first contact with guests and handling situations to help decision making and problem solving. Practically apply the knowledge acquired in the subjects corresponding to the 1st., 2nd. and 3rd. Semester 2006 Curriculum of Licenciatura in Hotel and Restaurant Management.
LODGING LAB	**HR321**	Analyze the different procedures that apply in each of a hotel's front and back areas. A first contact with guests and handling situations to help decision making and problem solving. Practically apply the knowledge acquired in the subjects corresponding to the 1st., 2nd. and 3rd. Semester 2006 Curriculum of Licenciatura in Hotel and Restaurant Management.
TOURISM ANALYSIS	**TR230**	Outline the economic variables that are related to tourism, and the nature of that relationship. Identify the hospitality industry as amajor economic activity. Analyze the economic effects of tourism and how they are evaluated. Explore different areas of tourism.
BUSINESS COMMUNICATION	**BA105**	Master verbal and nonverbal communication tools. Act as a communication agent achieving informative and persuasive achieving objectives in organizations' public relations.
MANAGERIAL ACCOUNTING	**FC333**	Interpret and use the information generated by cost accounting for proper planning and control of a company.
STATISTICAL ANALYSIS	**AE242**	Analyze and interpret data through extraction, recognition, classification, description, presentation, and inference based on theoretical and practical foundations to understand, use, compare and reorganize information.
LABOR LAW	**DE342**	Master the following concepts, practices and techniques: History, relevant socio-political and economic labor law in the world, Mexico; management of individual and collective labor relations and legal institutions; rights and

		obligations for workers and employers, negotiating a strike from the workers' or employers' perspective; content and development of individual and collective employment contracts. Understanding unions, their structure, standards, performance and importance.
GENERAL STUDIES II	EG	
ELECTIVES IN HOTELS		
SERVICE MARKETING	MK216	Analyze service organizations and adjust marketing goals and strategies accordingly.
BEVERAGE SERVICE MANAGEMENT	HR412	Design and plan beverage services for the tourism industry. Handle different types of beverage services, understanding the distribution of a bar, and describing the various types of equipment and tools used in the preparation of beverages. Apply control systems, purchasing, costing and beverages and explain the different preparation and service techniques. Master the types and characteristics of the various fermented beverages and distilled spirits, and their relationship with the administration of the service.
INCOME MANAGEMENT	HR360	Analyze how hotel rates are established and identify and outline different costcategories. Calculate the price or daily average check for hotels and restaurants and calculate the RevPAR and revenue per available space. Master the concepts of capacity management, allocation and control of stay discounts. Apply various revenue administration tools, using identical yields, occupancy rates, equivalent gray discount, and income not required by guest. Identify how revenue management decisions are affected by diverse factors.
INFORMATION MANAGEMENT I	BA230	Value the strategic importance of information technology in organizations, developing the skills to use them as support operations, decision-making tools and competitive advantage of organizations.
HUMAN RESOURCES MANAGEMENT	BA211	Analyze and apply the most important HR concepts and functions within organizations.
GENERAL STUDIES III	EG	
CONSUMER BEHAVIOR	MK215	Analyze the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.
GENERAL STUDIES IV	IG	
PROFESSIONAL DEVELOPMENT SEMINAR	HR470	Apply different ways to write a resume, a letter of presentation, as well as management and interviewing techniques, how to build a network, protocol, managing relationships with people from different cultures, and record and process professional practices for professional development.

FACILITIES MAINTENANCE FOR HOTELS AND RESTAURANTS	**HR336**	Define and debate on different preventive and corrective maintenance procedures that apply to each of the physical facilities of a hotel or restaurant. Describe and apply systems and equipment generally used in hotels and restaurants, as well as their form of management to troubleshoot daily operations.
OPERATIONS MANAGEMENT	**BA350**	Master different areas of operations management and troubleshooting within a management context.
BUSINESS STRATEGIES	**BA410**	Implement and develop the main conceptual, methodological and technological tools for organizational strategy
LEGAL FRAMEWORK FOR HOTELS AND RESTAURANTS	**HR423**	Analyze the obligations to be met by hotel owners, from building a hotel to its operation.
ETHICS AND SOCIAL RESPONSIBILITY	**HR432**	Outline ethics in the general framework of philosophical knowledge and its objective of the goodness or badness of human acts constituted as human and moral conduct of the person. Analyze how people organized for ethical purposes. Analyze the activities of businesses and debate, critically, the actions taken by companies in society.
GRADUATION PROJECT I	**HR495**	Analyze scientific research so that students write a research paper.
HOTEL AND RESTAURANT MANAGEMENT SEMINAR	**HR418**	Strategically manage and use financial analysis tools, diagnosis, planning and control, both conceptually and practically on hotel companies and restaurants.
NEW BUSINESS APPROACHES	**HR420**	Identify and analyze business methods in the hospitality industry. Outline the conceptual and operational framework related to each business. Address and debate issues related to each business focus and develop solutions. Determine which is the best business alternative in each situation.
GRADUATION PROJECT II	**HR496**	Develop and finish the research project under the guidance of a faculty member.
ELECTIVES IN RESTAURANTS		
SERVICE MARKETING	**MK216**	Analyze service organizations and adjust marketing goals and strategies accordingly.
BEVERAGE SERVICE MANAGEMENT	**HR412**	Design and plan beverage services for the tourism industry. Handle different types of beverage services, understanding the distribution of a bar, and describing the various types of equipment and tools used in the preparation of beverages. Apply control systems, purchasing, costing and beverages and explain the different preparation and service techniques. Master the types and characteristics of

		the various fermented beverages and distilled spirits, and their relationship with the administration of the service.
INCOME MANAGEMENT	HR360	Analyze how hotel rates are established and identify and outline different costcategories. Calculate the price or daily average check for hotels and restaurants and calculate the RevPAR and revenue per available space. Master the concepts of capacity management, allocation and control of stay discounts. Apply various revenue administration tools, using identical yields, occupancy rates, equivalent gray discount, and income not required by guest. Identify how revenue management decisions are affected by diverse factors.
INFORMATION MANAGEMENT I	BA230	Value the strategic importance of information technology in organizations, developing the skills to use them as support operations, decision-making tools and competitive advantage of organizations.
HUMAN RESOURCES MANAGEMENT	BA211	Analyze and apply the most important HR concepts and functions within organizations.
GENERAL STUDIES III	EG	
CONSUMER BEHAVIOR	MK215	Analyze the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.
GENERAL STUDIES IV	EG	
PROFESSIONAL DEVELOPMENT SEMINAR	HR470	Apply different ways to write a resume, a letter of presentation, as well as management and interviewing techniques, how to build a network, protocol, managing relationships with people from different cultures, and record and process professional practices for professional development.
FACILITIES MAINTENANCE FOR HOTELS AND RESTAURANTS	HR336	Define and debate on different preventive and corrective maintenance procedures that apply to each of the physical facilities of a hotel or restaurant. Describe and apply systems and equipment generally used in hotels and restaurants, as well as their form of management to troubleshoot daily operations.
OPERATIONS MANAGEMENT	BA350	Master different areas of operations management and troubleshooting within a management context.
BUSINESS STRATEGIES	BA410	Implement and develop the main conceptual, methodological and technological tools for organizational strategy.
LEGAL FRAMEWORK FOR HOTELS AND RESTAURANTS	HR423	Analyze the obligations to be met by hotel owners, from building a hotel to its operation.
ETHICS AND SOCIAL RESPONSIBILITY	HR432	Outline ethics in the general framework of philosophical knowledge and its objective of the goodness or badness of

		human acts constituted as human and moral conduct of the person. Analyze how people organized for ethical purposes. Analyze the activities of businesses and debate, critically, the actions taken by companies in society.
GRADUATION PROJECT I	HR495	Analyze scientific research so that students write a research paper.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
HOTEL AND RESTAURANT MANAGEMENT SEMINAR	HR418	Strategically manage and use financial analysis tools to diagnose, plan and control, both conceptually and practically hotels and restaurants.
NEW BUSINESS APPROACHES	HR420	Identify and analyze business methods in the hospitality industry. Outline the conceptual and operational framework related to each business. Address and debate issues related to each business focus and develop solutions. Determine which is the best business alternative in each situation.
GRADUATION PROJECT II	HR496	Develop and finish the research project under the guidance of a faculty member.
PROFESSIONAL SEMINAR	HR472	Aply the theoretical knowledge acquired and analyze a company's processes and problems to propose solutions or alternatives.
SOCIAL RESPONSIBILITY	RS498	Develop a social and pedagogical project that will allow students to provide solutions to problems in social contexts, participating in diverse organizations and strengthening their professional, social and civic duties.
ELECTIVES IN HOTELS AND RESTAURANTS I		
INSTITUTIONAL FOOD SERVICES	HR408	Debate from a different points of views other types of food services and different managent of institutional food services.
BUSINESS ASSERTIVENESS	HR450	Analyze concepts and develop skills that will allow students to be assertive in the current environment.
GLOBAL BUSINESS ENVIRONMENT	NI310	Analyze the international environment and master the concepts, terms and theories that serve as the basis for subsequent courses.
INTERCULTURAL MANAGEMENT	NI340	Provide students the basics needed to identify the main cultural differences between blocs of countries, to be able to develop effective management strategies. Master international expansion strategies and understand their implications in the administrative processes of organizations.
ELECTIVES IN HOTELS AND RESTAURANTS II		

ORGANIZATIONAL CHANGE	BA411	Master change and organizational development and understand the necessary tools to effectively manage social changes occurring in organizational systems and subsystems.
WINE CULTURE / OENOLOGY	HR245	Categorize and distinguish between different types of wine from all over the world, according to their characteristics, properties, origin, marriage, quality and taste.
FOOD SERVICE MANAGEMENT CASE STUDY	HR 400	Solve problems, based on real situations in this industry.
MANAGEMENT OF FREE TIME	TR480	Animation design programs and their implementation strategies, taking into account the various segments of the hospitality industry.
ELECTIVES IN HOTELS		
EVALUATION OF HOTEL PROJECTS	HR419	Analyze the operational characteristics of new real estate development modalities that the hospitality industry is currently experiencing. In this context, the content of this course focuses on identifying the basic operating process of timeshares using various analysis tools such as the REIT's business model.
EVENT MANAGEMENT	HR454	Debate the importance of group market and its segmentation, as well as the event market in general, both for hotels and for different tourist destinations. Master the operational aspects of all types of groups and/or group events in hotels, convention centers, analyzing other possible facilities and/or places. Understand the segments that make up the market, as well as their specific needs. Develop control systems and services for groups in headquarters hotels, hotels in general and convention centers. Manage techniques for the control and operations of large groups. Use the equipment and facilities required to operate in the event industry.
CASINO MANAGEMENT	HR456	Analyze casino operations and its relationship with the hotel departments. Debate the casino history and current trends. Analyze the casino game environment. Understand legal issues related to casino management. Design basic organizational casino hotel structures, including responsibilities and functions of each department.
RESORT MANAGEMENT	HR425	Debate resorts and their importance in international tourism. Understand the conceptual and operational framework related to resorts. Analyze problems related to resorts and develop solutions.
ELECTIVES IN RESTAURANTS		

PRINCIPLES OF COST CONTROL IN FOOD AND BEVERAGES	HR330	Effectively control food service costs. Manage cost accounting, marketing, and legal matters, and manage food and beverages and their production.
GASTRONOMIC CULTURE	HR411	Identify and describe the evolution of gastronomy, its origins, as well as the characteristics of those representative cuisines that have significantly influenced our country.
DEVELOPMENT OF A RESTAURANT BUSINESS PLAN	HR422	Write a business plan for a new restaurant, applying, in a simple and timely manner, the necessary steps to start this business.
NUTRITION FOR FOOD SERVICES PROFESSIONALS	HR409	Analyze and manage nutrients, their functions, their requirements and the foods that provide them. Plan a normal diet and a diet for some diverse health problems, supplementing the regimens with appropriate menu plans.

LICENCIATURA IN INTERNATIONAL BUSINESS ADMINISTRATION

INTERNATIONAL BUSINESS ADMINISTRATION OVERVIEW	NI103	Understand business administration's characteristics, functional areas, tools, basic concepts and guidelines. Analyze the importance of globalization, its origins, its impact on businesses and how businesses manage when they enter the international arena.
BUSINESS MATH	MA 117	Solve problems economic, administrative, accounting, and social sciences problems, efficiently using set algebra in solving problems of their professional area. Also, graph functions related to current business problems. Use algebra concepts to graph functions related to current business problems.
GENERAL STUDIES I	EG	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
GENERAL STUDIES II	EG	

MARKETING FUNDAMENTALS	MK 111	Analyze marketing elements in detail to develop marketing strategies, which include the target market analysis and marketing mix.
BUSINESS CALCULUS	MA 135	Analyze and use the differential and integral calculus techniques to solve classical optimization and other economic-administrative, accounting and social sciences problems for one or more variable functions
FINANCIAL ACCOUNTING	FC 112	Analyze the different types of organizations and different financial statements to make proper decisions.
PROFESSIONAL WRITING	PC214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
PRINCIPLES OF MICROECONOMICS	EC 201	Master the basics of microeconomic analysis, identifying their use and representing contemporary economic phenomena.
SECOND LANGUAGE II	ID	
GENERAL STUDIES III	EG	
ORGANIZATIONAL BEHAVIOR	BA 201	Develop and understand the dynamics of people in organizations, to conduct themselves assertively, and thus contribute to organizational goals.
STATISTICAL ANALYSIS	AE 242	Analyze and interpret data through extraction, recognition, classification, description, presentation, and inference based on theoretical and practical foundations to understand, use, compare and reorganize information.
COST ACCOUNTING	FC 231	Apply different methods to cost products and services, interpreting the resulting financial information to make decisions.
BUSINESS COMMUNICATION	BA 105	Master verbal and nonverbal communication tools. Act as a communication agent achieving informative and persuasive achieving objectives in organizations' public relations.
PRINCIPLES OF MACROECONOMICS	EC 202	Master the basics of macroeconomic analysis, identifying their use in describing contemporary economic phenomena.
SECOND LANGUAGE III	ID	
REGIONAL BUSINESS STUDIES I		
HUMAN RESOURCES MANAGEMENT	BA 211	Analyze and apply the most important HR concepts and functions within organizations.
FORECASTING METHODS	AE 265	Master conceptual and operational management models and multiple linear regressions. Identify the type of

		forecasting model used to solve problems in companies, applying the best forecasting method for real problem. Design and usecomputer software using templates.
MANAGERIAL ACCOUNTING	**FC 333**	Interpret and use the information generated by cost accounting for proper planning and control of a company
ECONOMIC GEOGRAPHY AND DEVELOPMENT EXPECTATIONS	**NI270**	Identify the historical dimensions of global change and the processes of globalization and regionalization. Understand the main theoretical perspectives of international relations to analyze globalization and regionalization. Students will also learn economic trade theories and how world development institution's function, trying to create a new global and regional atlas to compare the new poles.
LEGAL BUSINESS FRAMEWORK	**DE 332**	Understand the rules that apply to businesses (people or businesses) and commercial transactions to master the corporate, credit, commercial and labor contracting regulations, and use them in business.
INTERNATIONAL BUSINESS COMMUNICATION	**NI363**	Develop the student's English communication skills (written, verbal and nonverbal) within a context of international business. Apply theoretical knowledge through workshops, and presentations. The exercises are performed within a business context and are relevant for today's international business.
INTERCULTURAL ADMINISTRATION	**NI 340**	Identify the main cultural differences between blocs of countries, to be able to develop effective management strategies. Master international expansion strategies and understand their implications in the administrative processes of organizations.
MARKET RESEARCH	**MK 220**	Specify and provide accurate and relevant information to reduce uncertainty in decision-making. Describe the importance of market research as an essential tool of marketing organizations. Use the basic guidelines to develop research and measurement methods to study problems related to the marketing of goods and services.
GLOBAL BUSINESS ENVIRONMENT	**NI 310**	Analyze the international environment and master the concepts, terms and theories that serve as an introduction to subsequent courses.

FINANCIAL MANAGEMENT I	**FC 361**	Play the role of financial manager in companies; the different ways in which they operate; understand the basic tools of financial analysis and planning; evaluate financial performance by analyzing financial ratios and cash flow, asset structures and financial structure; understand the valuation of financial assets, the value of money over time, risk analysis and performance; the characteristics and ways to valuate fixed income securities and common shares in the domestic and international markets.
INTERNATIONAL ECONOMICS	**EC 314**	Analyze the main models to determine the level and composition of international trade, and cunderstand the microeconomic effects of major trade policy instruments. Demonstrate the basic plan to determine short-term output in an economy with perfect capital mobility and a flexible exchange rate, identifying the macroeconomic effects of monetary and fiscal policies.
INFORMATION MANAGEMENT	**BA 230**	Assess the strategic importance of information technology in organizations and develop the skills to use it as support in operations, decision-making and competitive advantage of organizations.
REGIONAL BUSINESS STUDIES II		
INTERNATIONAL HUMAN RESOURCES MANAGEMENT	**NI481**	Identify key areas of decision of the International Human Resource Management in an international context. Determine the problems of this function and propose solutions to them.
OPERATIONS MANAGEMENT	**BA 350**	Master different areas of operations management and troubleshooting within a management context.
INTERNATIONAL MARKETING	**NI 390**	Make students develop a global perspective of markets, thus becoming aware of the growing opportunities and challenges in international business. The student will acquire the necessary tools to diagnose the global environment to develop marketing strategies and implement these skills through the development of an international marketing plan.
INTERNATIONAL FINANCE MANAGEMENT	**FC464**	Understand the financial management of international businesses, understanding how international financial markets work, emphasizing the forex market, understanding various derivative financial instruments and their use for hedging and speculation. Understand mechanisms used in the international financial market to make international investments or obtain international financing to be able to minimize risk and maximize the profitability of international companies.

INTERNATIONAL BUSINESS REGULATIONS	NI444	Master and apply the main criteria and mechanisms for international trade regulation from the Mexican perspective and its potential effects on decisions of leading export and import companies, to foreign markets transactions in compliance with all international agreements and laws.
GENERAL STUDIES IV	EG	
INTERNATIONAL LOGISTICS	NI 380	Prove the importance of logistics and its main components to integrate them into a planning, organization and efficient control process internationally.
ETHICS AND TRANSPARENCY IN BUSINESS: LATIN AMERICA AND THE WORLD	NI391	Analyze "ethical" decisions of organizations, according to classical and contemporary knowledge on the subject, and measure their impact on business.
INTERNATIONAL NEGOTIATION STRATEGIES	NI494	Develop intercultural skills and strategic knowledge to intervene effectively in negotiating international trade agreements and alliances between companies.
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
INTERNATIONAL CORPORATE STRATEGY I	NI 491	Understand the most recognized corporate strategic analyses and use these models in case analysis models.
GRADUATION PROJECT I	NI 498	Intervene effectively in creative processes and implement problem management to develop general guidelines, draft professional qualifications, and propose a case problem during the student's practice at a company.
CORPORATE PRACTICES	NI 453	Work in a company with international activities under the dual supervision/mentoring of a company executive and a professor.
GRADUATION PROJECT II	NI 499	Write a final document for the graduation roject under the guidance of a teacher. Oral presentation and explanation of the document before a jury.
GENERAL STUDIES V (CO-CURRICULAR)		
REGIONAL BUSINESS STUDIES		
BUSINESS IN EUROPE	NI 382	Analyze an overview of the economy, politics, history and culture of nations that have changed over the years in Europe. Master the international business environment, as well as the cultural diversity, that has brought them together to form one of the strongest economies of the world.

BUSINESS IN ASIA	**NI 383**	Analyze the business environment in Asian countries. Illustrate how the political, socio-cultural and technological environment can impact business practices in Asian markets.
MEXICO AND ITS COMMERCIAL RELATIONSHIP WITH CANADA AND THE US	**NI 495**	Analyze new trends and business opportunities that currently exist in, specifically with its partners in North America. Identify economic policies that, through a history of instability and war, directly influenced the industrial and commercial development of today's Mexico. Debate that through Free Trade Agreement and trade liberalization generally, industries and commercial activities in Mexico have been transformed in a radical way. Identify significant changes that are taking place towards modernization and revitalization of the Mexican economy.
LATIN AMERICAN MARKETS	**NI 496**	Analyze and compare the biggest differences between major markets in Latin America with respect to culture, society, infrastructure, economy and political and legal systems so that the student can evaluate these markets and design optimal investment strategies.
ELECTIVES IN ECONOMICS		
PORTFOLIO MANAGEMENT	**EC 385**	Master investment portfolios techniques to diversify them and optimize performance parameters versus expected risk.
VALUE MARKET	**EC 435**	Master the various markets in which financial assets are traded. Experiment with the characteristics of the values and generate their prices, expected returns and benefits.
ELECTIVES IN FINANCE AND ACCOUNTING		
ADVANCED MANAGEMENT AND COST SYSTEMS	**FC 335**	Analyze, apply and master more advanced cost systems techniques used in companies.
AUDITING REGULATIONS AND PROCEDURES	**FC 341**	Understand the auditor's job and the tools they use for their activities.
COMPUTER CORPORATE AUDITING	**FC 342**	Apply computer techniques and procedures to check balances, developing electronic sheets, organizing documents for internal and external audit reports.
TAX LEGISLATION I	**FC 351**	Understand the importance of tax law within the administration, since tax has an important role for the State, describing an overview of taxation, specifying non-tax and extraordinary income. Understand coordination, public expenditure, federal tax codes and their regulations, the contentious administrative system, amparo in tax matters, and how to defend against federal, state and municipal authorities.

FOREIGN TRADE AND INTERNATIONAL TREATIES	**FC 458**	Identify, describe and use VAT, Foreign Trade and Customs, and the General Tax Import and Export laws to conduct import and export operations of goods and services, understanding the general framework of international treaties.
ELECTIVES IN BUSINESS ADMINISTRATION		
SERVICE MARKETING	**MK 216**	Develop, plan and implement marketing strategies for services businesses. Analyze service organizations and adjust marketing goals and strategies accordingly.
ORGANIZATIONAL CONSULTING	**BA 417**	Analyze consulting organizations and describe the operations necessary to plan for changes in companies.
INFORMATION MANAGEMENT II	**BA 330**	Understand the key elements and technologies of E-Business and develop the skills to apply Internet technologies in company processes.
SUPPLY CHAIN	**BA 450**	Design, operate and improve a company's supply chain, maintaining the system up to date in lieu of advancing technology. Solve problems within a management context, especially in relation to the interaction of the company with its suppliers and consumers as well as to improve the performance and quality of supplies and the distribution of products or services.
ELECTIVES		
ORGANIZATIONAL PRACTICES SEMINAR	**NI 250**	Develop professional skills within the business context to gain competitive advantages in the labor market.
EXPORT MANAGEMENT	**NI 316**	Analyze the current situation of Mexico as an exporting country, developing the necessary skills for the Mexican exporter to function successfully in international markets.
ADVANCED TOPICS IN INTERNATIONAL HUMAN RESOURCES MANAGEMENT	**NI 480**	Analyze the main changes and challenges that human resource management faces in multinational corporations. Apply the strategies used by organizations in managing their staff to cope with cultural diversity in a global context. Diagnose problems characteristic of this function and propose solutions.
COMMERCIAL TREATIES AND AGREEMENTS	**NI 445**	Master and apply the main criteria and mechanisms to regulate international trade from the Mexican perspective and its potential effects on import and export decisions for companies as well as transactions with foreign markets that must be analyzed and must comply with all international agreements and laws.
INTERNATIONAL PROMOTION	**NI 497**	Identify promotion decisions that global companies and multinationals face, as well as the strategies they use. From this, the student will be able to apply the main promotional tools according to the market's characteristics.

LICENCIATURA IN CULTURAL ANTHROPOLOGY

SECOND LANGUAGE I	ID	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness
MATH AND STATISTICS	MA 124	Perform descriptive statistics: numerically and graphically, by hand and using statistical software such as SPSS and StatView.
CULTURE AND SOCIETY	AN 120	Master, identify and debate the fundamental concepts, as well as data and achievements of ethnological science, to discern, describe, analyze, and compare the great cultural diversity and similarities that characterize the social life of human communities.
GENERAL ARCHEOLOGY	AN 130	Understand the history of archeology development; analyze theories on which archeology is based and theories, and the methods of archaeological interpretation; know techniques which archeology uses.
SECOND LANGUAGE II	ID	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SOCIAL STATISTICS	AE 223	Develop parameters to estimate or compare quantitative questions. Identify relevant statistical tests as a decision criteria for the respective parameter of the population. Use basic statistical computer tests and interpret their results. Evaluate sampling and statistical studies of other professionals to debate them or use their results in an optimal way for the development of business interests, public or private.
GENERAL PHYSICAL ANTHROPOLOGY	AN 100	Master the history of physical anthropology development; analyze how evolution, genetics and adaptation work and analyze the course of human evolution; compare theories about modern variation.
MESOAMERICAN ARCHEOLOGY I	AN 131	Create a view of the archaeological data that we have to study the early cultural evolution in Mesoamerica and describe the intellectual history of the discipline. Examine the relevant literature and identify the contributions of leading researchers who have contributed to the respect and contrast the theoretical arguments with information.
GENERAL LINGUISTICS	AN160	Master the general linguistic foundation necessary for a basic understanding of the importance of this field within anthropology and its relationship with the other branches of this discipline.
SECOND LANGUAGE III	ID	

HUMAN VARIABILITY	AN 201	Analyze the relationship between human biology, environment and culture. Master concepts and aspects of operational human biology that have been modified or are subject to change depending on pressures of both the natural and cultural environment and meet the different ways that are expressed leading to consider human species as polytypic and polymorphous.
FUNDAMENTALS OF ANTHROPOLOGICAL THINKING	AN 202	Analyze the intellectual history of anthropological thought from Greek and Roman thinkers to the early emergence of the discipline in the 19th century.
WORLD ETHNOLOGY	AN 211	Master the main cultural areas of the world and the fundamental socio-cultural traits associated with representative societies in each area.
MESOAMERICAN ARCHEOLOGY II	AN 232	Have a general view of the archaeological data that we have to study the cultural evolution of the Classic and Postclassic periods in Mesoamerica; identify relevant literature and input from leading researchers who have contributed to the subject; analyze the intellectual history of the discipline debating the theoretical arguments with information.
LANGUAGE AND CULTURE: NÁHUATL	AN 261	Master the linguistic tools necessary to use historical documents and build the foundations of the Nahuatl language spoken for field use and analysis of anthropological data.
GENERAL STUDIES I	EG	
ETHNOLOGY FIELD METHODS	AN 221	Identify a social situation and transform it into a research problem, creating relevant categories, relating identified aspects and social actors. Create a logically structured methodological approach and build a set of techniques and an ideal bibliography.
CURRENT TRENDS IN ANTHROPOLOGY	AN 254	Understand the history of socioanthropological ideas and thought, the development of ethnographic practice, analyzing the ideas of relationship between society and nature during the 20th century. Promote analytical capabilities and oral communication skills of students, for example, their ability to identify ideas and central arguments of a text, and comment and/or debate these in a coherent and understandable way. Finally, encourage written communication skills: the ability to organize one's ideas and present them professionally in grammatically correct prose.
GENERAL PRE-HISTORY	AN 255	Develop a general view of the archaeological and biological data we have for the study of cultural evolution during the Pleistocene, and analyze the relationship between empirical data and theoretical constructs by considering the contributions of leading researchers; master the intellectual history of this area.
ETHNOHISTORY	AN 272	Master the tools and techniques used for the study of manuscripts and historical archives in general and specifically those relevant to Mexico and identify relevant literature and input from leading

		researchers who have contributed to the subject; analyze the intellectual history of the discipline to relate this to current arguments derived from the latest information.
HISTORICAL MEXICAN ETHNOLOGY	**AN 283**	Master the historical development of indigenous Mexican people from the colonial era to the 20th century, analyzing their insertion into the Spanish colonialism, and developing ideas on the changes to the state from the Bourbon Reforms and Independence.
GENERAL STUDIES II	**EG**	
MODERN MEXICAN ETHNOLOGY	**AN 312**	Develop a solid foundation on ways of life, culture and social organization of indigenous groups of Mesoamerica and northern Mexico at the present time, studying their social human-environment relations, the linguistic situation, the economic, political operations of the main indigenous groups as well as religious and artistic aspects that characterize them. Analyze the position of ethnicity in national society, emphasizing the impact of this on the development of indigenous groups.
ORIGINS OF CIVILIZATION	**AN 356**	Analyze data around the emergence of social inequality, the transition to agriculture, the impact of new technology and development of cities and states in Africa, Asia and Europe.
TECHNICAL ILLUSTRATION I	**AN 388**	Master photographic techniques to document anthropological research; evaluate photographic techniques to identify the advantages and disadvantages of using them; develop and interpret visual images as sociocultural phenomena.
MYTH, MAGIC AND RELIGION	**AN 377**	Analyze the intellectual history of the scientific study of mythical, magical and religious beliefs, and build an appreciation of the similarities and differences of these phenomena among various human societies.
ETHNOLOGICAL THEORY	**AN 395**	Master the premises, arguments, contributions and limitations of theoretical currents in anthropological debate. Analyze, criticize and orally explain the ideas and central arguments of a text, and discern and debate with other classmates in a coherent and understandable way. Analyze, criticize and explain through the essay ideas and present them professionally in grammatically correct prose.
GENERAL STUDIES III	**EG**	
ETHNOLOGY SEMINAR I	**AN 305**	Master political, social and cultural concepts of the economic characteristics of a Mesoamerican region or one of the basic topics of ethnology.
AMERICAN ETHNOLOGY	**AN 310**	Understand the main elements of culture and society of indigenous peoples of the Americas. Analyze the basic descriptions of the most representative groups in each region and their cultural achievements

STATE, CULTURE AND NATIONALISM	AN 315	Master the theory of the creation of the state as a cultural process, and the historical-sociocultural building of a nation. Identify, explain, and indicate socio-cultural expressions, and debate the theories and practices implemented by the state around indigenous topics and those related to national integration of the various sections of the population.
RURAL ANTHROPOLOGY	AN 325	Master the conceptual management of sociocultural characteristics of world peasant societies, especially those in Latin America. Compare, contrast and understand the theoretical and conceptual debates that have arisen around this analysis and their inclusion into capitalist economies.
HANDLING ETHNOGRAPHIC DATA	AN 422	Master the different techniques to handle and analyze information both qualitatively and qualitatively; use different statistical programs. Create interpretations based on anthropological theory from the analysis of field data.
SPECIAL PROJECT I	AN 484	Implement the methods and anthropological techniques and/or archaeological field to solve problems; relate the theoretical knowledge with the data; prepare a technical report fieldwork.
SPECIAL PROJECT II	AN 485	Implement the methods and anthropological techniques and/or archaeological field to solve problems; relate the theoretical knowledge with the data; prepare a technical report fieldwork.
GENERAL STUDIES IV	EG	
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
ETHNOLOGY SEMINAR II	AN 405	Describe the economic, political, social and cultural characteristics of the Mesoamerican region or one of the basic topics of ethnology of the area, and master the concepts associated with sociocultural study.
URBAN ANTHROPOLOGY	AN 433	Compare the approaches of the different currents in the field of Urban Anthropology and analyze the situation of the different stakeholders, and the interaction they have with the different urban areas.
ANTHROPOLOGY, POLITICS AND ECONOMICS	AN 465	Master the classic ethnographies of economic and political anthropology. Identify and debate the different theoretical positions that anthropology has developed to study economic and political dimensions of indigenous societies worldwide.

GENDER ANTHROPOLOGY	AN 475	Analyze social and cultural issues from a gender perspective; establish gender criteria based on the analysis of multiple variables, diagnosing specific cases.
GRADUATION PROJECT I	AN 494	Write a research project, including the proposing the problem, question, objectives, theoretical discussion, methodology, time and resources.
APPLIED ANTHROPOLOGY	AN 461	Compare the different currents of applied anthropology and identify the possibilities of contribution from this area that can be done to solve social problems.
CULTURAL ANTHROPOLOGY SEMINAR	AN 495	Analyze and debate select a topic related to a specific social problem or anthropological theory. The topic will be selected according with the competencies of different teachers.
GRADUATION PROJECT II	AN 497	Apply research design methodology; analyze and interpret the data obtained to write a professional thesis.
ELECTIVES		
OSTEOLOGY	AN 300	Identify the basic principles for the analysis of human skeletal remains, relevant literature and basic techniques to obtain bone information; debate the relevance of the study of human skeletal remains to obtain biological evolutionary information to develop cultural inferences. Apply the treatment of bone material in the field or laboratory. Link data obtained to knowledge techniques in general.
MESOAMERICAN CERAMICS	AN 333	Master typological principles used to classify archaeological ceramics. Identify trends and attributes of the main ceramic sequences. Apply rules and description techniques, understanding the basic literature on the most important cultural areas.
PREHISPANIC ART AND ARCHITECTURE	AN 334	Identify the different styles in spatial and temporal terms; create a specific and detailed view of the symbolic systems used by different pre-Hispanic cultures in Mesoamerica, including the development of regional and "international" styles, specifying the historical significance of the traits and political-religious ideology; identify relevant literature from leading researchers who have contributed to the subject; define the intellectual history of the study of pre-Hispanic art; theoretical arguments relate to information.
ARCHEOLOGY SEMINAR I	AN 336	Relate empirical evidence and master the specialized topic archeology in Mesoamerica and northern Mexico.
ARCHEOLOGICAL THEORY	AN 394	Master the history of archaeological thought; analyze the use of philosophy in archeology and contrast the use of science and humanism in archeology. Develop evolutionary thought.
AMERICAN ARCHEOLOGY	AN 410	Analyze the history of archaeological studies and chronology in the North or South America; compare the variability of North or South America and analyze how archaeologists handle data.
ARCHEOLOGY SEMINAR II	AN 437	Relate empirical evidence and master the specialized topic archeology in Mesoamerica and northern Mexico.

ARCHEOLOGY SEMINAR III	AN 438	Relate empirical evidence and master the specialized topic archeology in Mesoamerica and northern Mexico.
CULTURAL HERITAGE	AN 473	Formulate archaeological values through the critical study and analysis of ethical codes both past and contemporary in this field. Identify the different interests and users of the archaeological heritage and assess their views on treating, holding and disposing of human remains, archaeological and historical sites, and other antiques. Develop an effective position to support and defend the preservation of cultural heritage and evaluate contemporary issues on ethical and legal issues in the context of professional archaeological practice.
TECHNICAL ILLUSTRATION II	AN 488	Master the basics of graphical representation of archaeological records. Use techniques of hand and computer drawing of the various aspects of archaeological illustration in the field. Interpret the conventions of archeology technical illustration. Design an illustrated publication.

LICENCIATURA IN ARCHEOLOGY

SECOND LANGUAGE I	ID	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
MATH AND STATISTICS	MA 124	Perform descriptive statistics: numerically and graphically, by hand and using statistical software such as SPSS and StatView.
CULTURE AND SOCIETY	AN 120	Master, identify and debate the fundamental concepts, as well as data and achievements of ethnological science, to discern, describe, analyze, and compare the great cultural diversity and similarities that characterize the social life of human communities.
GENERAL ARCHEOLOGY	AN 130	Understand the history of archeology development; analyze theories on which archeology is based and theories, and the methods of archaeological interpretation; know techniques which archeology uses.
SECOND LANGUAGE II	ID	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.

SOCIAL STATISTICS	AE 223	Develop parameters to estimate or compare quantitative questions. Identify relevant statistical tests as a decision criteria for the respective parameter of the population. Use basic statistical computer tests and interpret their results. Evaluate sampling and statistical studies of other professionals to debate them or use their results in an optimal way for the development of business interests, public or private.
GENERAL PHYSICAL ANTHROPOLOGY	AN 100	Master the history of physical anthropology development; analyze how evolution, genetics and adaptation work and analyze the course of human evolution; compare theories about modern variation.
MESOAMERICAN ARCHEOLOGY I	AN 131	Create a view of the archaeological data that we have to study the early cultural evolution in Mesoamerica and describe the intellectual history of the discipline. Examine the relevant literature and identify the contributions of leading researchers who have contributed to the respect and contrast the theoretical arguments with information.
GENERAL LINGUISTICS	AN 160	Master the general linguistic foundation necessary for a basic understanding of the importance of this field within anthropology and its relationship with the other branches of this discipline.
SECOND LANGUAGE III	ID	
HUMAN VARIABILITY	AN 201	Analyze the relationship between human biology, environment and culture. Master concepts and aspects of operational human biology that have been modified or are subject to change depending on pressures of both the natural and cultural environment and meet the different ways that are expressed leading to consider human species as polytypic and polymorphous.
FUNDAMENTALS OF ANTHROPOLOGICAL THINKING	AN 202	Analyze the intellectual history of anthropological thought from Greek and Roman thinkers to the early emergence of the discipline in the 19th century.
WORLD ETHNOLOGY	AN 211	Master the main cultural areas of the world and the fundamental socio-cultural traits associated with representative societies in each area.
MESOAMERICAN ARCHEOLOGY II	AN 232	Have a general view of the archaeological data that we have to study the cultural evolution of the Classic and Postclassic periods in Mesoamerica; identify relevant literature and input from leading researchers who have contributed to the subject; analyze the intellectual history of the discipline debating the theoretical arguments with information.

LANGUAGE AND CULTURE: NÁHUATL	AN 261	Master the linguistic tools necessary to use historical documents and build the foundations of the Nahuatl language spoken for field use and analysis of anthropological data.
GENERAL STUDIES I	EG	
ARCHEOLOGICAL METHODS	AN 241	Master basic methods and techniques of field archeology; assess the implementation of various strategies to rescue and research. Design a proposal for archaeological work, creating budgets and a technical report.
CURRENT TRENDS IN ANTHROPOLOGY	AN 254	Understand the history of socioanthropological ideas and thought, the development of ethnographic practice, analyzing the ideas of relationship between society and nature during the 20th century. Promote analytical capabilities and oral communication skills of students, for example, their ability to identify ideas and central arguments of a text, and comment and/or debate these in a coherent and understandable way. Finally, encourage written communication skills: the ability to organize one's ideas and present them professionally in grammatically correct prose.
GENERAL PRE-HISTORY	AN 255	Develop a general view of the archaeological and biological data we have for the study of cultural evolution during the Pleistocene, and analyze the relationship between empirical data and theoretical constructs by considering the contributions of leading researchers; master the intellectual history of this area.
ETHNOHISTORY	AN 272	Master the tools and techniques used for the study of manuscripts and historical archives in general and specifically those relevant to Mexico and identify relevant literature and input from leading researchers who have contributed to the subject; analyze the intellectual history of the discipline to relate this to current arguments derived from the latest information.
HISTORICAL MEXICAN ETHNOLOGY	AN 283	Master the historical development of indigenous Mexican people from the colonial era to the 20th century, analyzing their insertion into the Spanish colonialism, and developing ideas on the changes to the state from the Bourbon Reforms and Independence.
GENERAL STUDIES II	EG	

MODERN MEXICAN ETHNOLOGY	AN 312	Develop a solid foundation on ways of life, culture and social organization of indigenous groups of Mesoamerica and northern Mexico at the present time, studying their social human-environment relations, the linguistic situation, the economic, political operations of the main indigenous groups as well as religious and artistic aspects that characterize them. Analyze the position of ethnicity in national society, emphasizing the impact of this on the development of indigenous groups.
MESOAMERICAN CERAMICS	AN 333	Master typological principles used to classify archaeological ceramics. Identify trends and attributes of the main ceramic sequences. Apply rules and description techniques, understanding the basic literature on the most important cultural areas.
ORIGINS OF CIVILIZATION	AN 356	Analyze data around the emergence of social inequality, the transition to agriculture, the impact of new technology and development of cities and states in Africa, Asia and Europe.
TECHNICAL ILLUSTRATION I	AN 388	Master photographic techniques to document anthropological research; evaluate photographic techniques to identify the advantages and disadvantages of using them; develop and interpret visual images as sociocultural phenomena.
ARCHEOLOGICAL THEORY	AN 394	Master the history of archaeological thought; analyze the use of philosophy in archeology and contrast the use of science and humanism in archeology. Develop evolutionary thought.
GENERAL STUDIES III	EG	
OSTEOLOGY	AN 300	Identify the basic principles for the analysis of human skeletal remains, relevant literature and basic techniques to obtain bone information; debate the relevance of the study of human skeletal remains to obtain biological evolutionary information to develop cultural inferences. Apply the treatment of bone material in the field or laboratory. Link data obtained to knowledge techniques in general.

PREHISPANIC ART AND ARCHITECTURE	AN 334	Identify the different styles in spatial and temporal terms; create a specific and detailed view of the symbolic systems used by different pre-Hispanic cultures in Mesoamerica, including the development of regional and "international" styles, specifying the historical significance of the traits and political-religious ideology; identify relevant literature from leading researchers who have contributed to the subject; define the intellectual history of the study of pre-Hispanic art; theoretical arguments relate to information.
ARCHEOLOGY SEMINAR I	AN 336	Relate empirical evidence and master the specialized topic archeology in Mesoamerica and northern Mexico.
MATERIALES INORGÁNICOS	AN 346	Master the methods and techniques to identify and analyze inorganic materials in archaeological contexts. Describe materials systematically including their attributes; develop the ability to report inorganic materials properly.
SPECIAL PROJECT I	AN 484	Implement anthropological and/or archaeological methods and techniques to solve problems; relate the theoretical knowledge with the data; prepare a technical report fieldwork.
SPECIAL PROJECT II	AN 485	Implement anthropological and/or archaeological methods and techniques to solve problems; relate the theoretical knowledge with the data; prepare a technical report fieldwork.
GENERAL STUDIES IV	EG	
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
MATERIALES ORGÁNICOS	AN 402	Master zooarchaeology and paleoethnobotany using methods to recover organic materials (seed, coal, fitolitos, animal bones and pollen) inarchaeological contexts, and assess conservation techniques. Analytical methods are used to identify different materials, and simulate conditions to interpret their presence in terms of environmental reconstruction and livelihood.
AMERICAN ARCHEOLOGY	AN 410	Analyze the history of archaeological studies and chronology in the North or South America; compare the variability of North or South America and analyze how archaeologists handle data.

ARCHEOLOGY SEMINAR II	AN 437	Relate empirical evidence and master the specialized topic archeology in Mesoamerica and northern Mexico.
TALLER TÉCNICO	AN 444	Master one or more archeology art techniques, such as mapping with total station, using remote sensing systems, GIS, or other methods.
GRADUATION PROJECT I	AN 494	Write a research project, including the proposing the problem, questios, objectives, theoretical discussion, methodology, time and resources.
ARCHEOLOGY SEMINAR III	AN 438	Relate empirical evidence and master the specialized topic archeology in Mesoamerica and northern Mexico.
CULTURAL HERITAGE	AN 473	Formulate archaeological values through the critical study and analysis of ethical codes both past and contemporary in this field. Identify the different interests and users of the archaeological heritage and assess their views on treating, holding and disposing of human remains, archaeological and historical sites, and other antiques. Develop an effective position to support and defend the preservation of cultural heritage and evaluate contemporary issues on ethical and legal issues in the context of professional archaeological practice.
GRADUATION PROJECT II	AN 497	Apply research design methodology; analyze and interpret the data obtained to write a professional thesis.
ELECTIVES		
ETHNOLOGY FIELD METHODS	AN 221	Identify a social situation and transform it into a research problem, creating relevant categories, relating identified aspects and social actors. Create a logically structured methodological approach and build a set of techniques and an ideal bibliography.
ETHNOLOGY SEMINAR I	AN 305	Master political, social and cultural concepts of the economic characteristics of a Mesoamerican region or one of the basic topics of ethnology.
AMERICAN ETHNOLOGY	AN 310	Understand the main elements of culture and society of indigenous peoples of the Americas. Analyze the basic descriptions of the most representative groups in each region and their cultural achievements
STATE, CULTURE AND NATIONALISM	AN 315	Master the theory of the creation of the state as a cultural process, and the historical-sociocultural building of a nation. Identify, explain, and indicate socio-cultural expressions, and debate the theories and practices implemented by the state around indigenous topics and those related to national integration of the various sections of the population.

RURAL ANTHROPOLOGY	AN 325	Master the conceptual management of sociocultural characteristics of world peasant societies, especially those in Latin America. Compare, contrast and understand the theoretical and conceptual debates that have arisen around this analysis and their inclusion into capitalist economies.
MYTH, MAGIC AND RELIGION	AN 377	Analyze the intellectual history of the scientific study of mythical, magical and religious beliefs, and build an appreciation of the similarities and differences of these phenomena among various human societies.
ETHNOLOGICAL THEORY	AN 395	Master the premises, arguments, contributions and limitations of theoretical currents in anthropological debate. Analyze, criticize and orally explain the ideas and central arguments of a text, and discern and debate with other classmates in a coherent and understandable way. Analyze, criticize and explain through the essay ideas and present them professionally in grammatically correct prose.
ETHNOLOGY SEMINAR II	AN 405	Describe the economic, political, social and cultural characteristics of the Mesoamerican region or one of the basic topics of ethnology of the area, and master the concepts associated with sociocultural study.
HANDLING ETHNOGRAPHIC DATA	AN 422	Master the different techniques to handle and analyze information both qualitatively and qualitatively; use different statistical programs. Create interpretations based on anthropological theory from the analysis of field data.
URBAN ANTHROPOLOGY	AN 433	Compare the approaches of the different currents in the field of Urban Anthropology and analyze the situation of the different stakeholders, and the interaction they have with the different urban areas.
APPLIED ANTHROPOLOGY	AN 461	Compare the different currents of applied anthropology and identify the possibilities of contribution from this area that can be done to solve social problems.
ANTHROPOLOGY, POLITICS AND ECONOMICS	AN 465	Master the classic ethnographies of economic and political anthropology. Identify and debate the different theoretical positions that anthropology has developed to study economic and political dimensions of indigenous societies worldwide.
GENDER ANTHROPOLOGY	AN 475	Analyze social and cultural issues from a gender perspective; establish gender criteria based on the analysis of multiple variables, diagnosing specific cases.
CULTURAL ANTHROPOLOGY SEMINAR	AN 495	Analyze and debate select a topic related to a specific social problem or anthropological theory. The topic will be selected according with the competencies of different teachers.

LICENCIATURA IN ARCHITECTURE

DESIGN WORKSHOP I: ARGUMENTS	AI 111	Master the basic arguments that support an architectural proposal and recognize them in a spatial design, using elements and basic design concepts in creating spatial models that solve design problems of low complexity.
ARCHITECTURAL DESIGN PROCESSES AND STRATEGIES	AR 132	Apply critical thinking (which assesses or judges), Creative Thinking (origins) and propositional thought (leading) to understanding the productive process of architectural spaces, which the department called "Methodology of Design", to logically lead a design process and communicate your intentions clearly.
UNDERSTANDING FORM AND SPACE	AR 150	Identify the characteristics of form, geometrical bodies and surfaces, defining the object and the architectural space. Project ways that they relate and identify with the elements of the architectural space.
ARCHITECTURAL SKETCH	AR 152	Use shape and space through architectural freehand drawing. Debate their sketch designs to represent the concepts used and apply the conventions of architectural drawing to communicate design ideas.
ELECTRONIC IMAGE	DV 111	Use computers as tools to create and edit images and texts for design projects.
MATH FOR ARQUITECTURE	MA 103	Apply the elementary mathematics methods in architecture. Use algebra, linear algebra, trigonometry, functions and graphs, as a basic tool to solve design and estructural problems. Calculate which method is most appropriate to solve, depending on the features of the problem. Apply numerical and algebraic foundations acquired to solve practical problems.
GENERAL STUDIES I		
DESIGN WORKSHOP II: CRITICAL JUDGEMENT	AI 112	Analyze and create critical judgments about different concepts, methods, processes and basic techniques that generate a design proposal that is functional and has spatial complexity; apply the basic concepts of the customer, providing function and support and integrate them into a simple project. Apply the knowledge acquired during the first two semesters to solve low complexity spatial problems.

CONSTRUCTION FUNDAMENTALS	AR 121	Learn the basic elements of the construction process of architectural projects from the analysis of the land to what is built in the environment.
ARCHITECTURE IN HISTORY	AR 134	Interpret design intentions present in Western architecture, including interior and exterior elements, from its origins to the 18th century (excluding Mexico, which is discussed in another course), through an analysis of spatial models, environmental qualities, construction and structural models and social uses of space.
STRUCTURAL PRINCIPLES	AR 141	Analyze and demonstrate the logic of various structural systems, to implement them as fundamental tools in making structural decisions applied to architectural projects.
REPRESENTATION AND PERSPECTIVE TECHNIQUES	AR 155	Graph the architectural space by applying basic techniques of architectural representation in architectural and interior design projects. Explore the form and space from different perspectives.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
ARCHITECTURAL DESIGN WORKSHOP III	AR 211	Make architectural proposals that solve the needs of society related to domestic spaces, lifestyles and specific realities, applying UDLAP design methodology.
CONSTRUCTION MATERIALS	AR 220	Identify the most suitable materials for different types of architectural projects and for different stages of the construction process, carefully analyzing their qualities and characteristics.
MEXICAN ARCHITECTURE	AR 231	Identify in art and architectural solutions in Mexico, their techniques and functions corresponding to the influence of climatic, social and cultural, economic, and political factor, until the 19th century.
STATICS	AR 242	Apply the concepts of physics to establish and develop the principles of stability and equilibrium of bodies at rest; identify the coplanar systems elements and three-dimensional systems subjected to forces.

COMPUTER ARCHITECTURAL DRAWING	AR 250	Visually and graphically represent architectural and interior projects using computer programs such as Autocad ® and Architectural ® or others. Also relate the objectives of architectural representation with their structural and constructive counterparts.
SECOND LANGUAGE II	ID	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
ARCHITECTURAL DESIGN WORKSHOP IV	AR 212	Design solutions to society's architectural spaces needs, understanding the implications of the relationship between ownership and use.
CONSTRUCTION PROEDURES	AR 224	Identify the different construction process stages he according to each type of architectural design and the logic sequence that follows them.
MODERN ARCHITECTURE	AR 232	Identify the causes of the modern architecture movement, critically based on their contributions and outlining design methods used in the study period, ranging from the 19th century to the first half of the 20th century.
MATERIAL RESISTANCE	AR 243	Analyze structural elements subjected to force systems and according to the properties and characteristics of the flat sections, calculate, display, graph and deduce the various effects, considering the position of the element and the allowed values of resistance materials, so that this knowledge is a valid and important instrument in making structural decisions of an architectural project.
DIGITAL SIMULATION	AR 251	Use the right software to create, manipulate, analyze and represent projects, with the help of three-dimensional digital models and interior architectural projects.
CONSTRUCTION MATERIALS LAB	IC 113	Identify and understand the main properties of the most important materials in the construction industry, establishing the relationship of these with the role they play in quality control.
SECOND LANGUAGE III	ID	
ARCHITECTURAL DESIGN WORKSHOP V	AR 311	Analyze and interpret the forces that shape a foreign place next to the local reality to design processes that drive users and contexts to support their design proposals on global urban form information.

BASIC INSTALLATIONS	AR 322	Identify the structure of the network of services necessary for different types of architectural projects, estimating their capabilities, specifications, and managing their integration into the construction project.
URBAN PLANNING I	AR 361	Develop a vision of the city as product design and its social determinants, with special emphasis on the knowledge and application of urban designing concepts, urban structure, social actors and agents involved in their formation.
STRUCTURAL CALCULATION CRITERIA	AR 345	Develop and apply the theoretical bases of structural design in solving some basic structures, both static and isostatic as hyperstatic, using mathematical models. Propose, design and calculate various structural elements using traditional building materials. Analyze these elements affected by normal loads and wind loads and earthquakes. Get the most convenient sections to achieve stability and balance of the system, as well as security, economy and aesthetics of a good architectural design.
ARCHITECTURAL COMMUNICATION	AI 351	Visually and graphically communicate ideas and proposals through paper or poster presentations by applying different techniques and manual and digital tools.
GENERAL STUDIES II	EG	
ARCHITECTURAL DESIGN WORKSHOP VI	AR 313	Analyze cities as a constantly evolving entity and identify the economic, political and social forces that make cities develop into architectural projects.
SPACE CONDITIONING	AR 323	Establish the importance of considering the environment in architectural design and analyze the stresses of the different spaces that require optimum acoustics, environmental control and security.
CONSTRUCTION WORKSHOP	AR 324	Identify the specifications of materials and processes needed to carry out construction processes using the conventional rules and formulas and representation symbologies.
CONSERVING HERITAGE	AR 331	Support the need to preserve and keep alive natural and cultural heritage by acquiring a conservation ethic that will allow students to learn to reconcile the interests of building practice with the permanence of the heritage; at the same time students learn to interpret the present conditions to make proposals for intervention to preserve and improve their environmental qualities.

REINFORCED CONCRETE DESIGN	AR 346	Develop and apply design criteria of reinforced concrete method, according to the rules of the DF (NTC). Design and calculate structural elements determinate and indeterminate, as embedded beams, continuous beams and doubly reinforced beams, slabs, columns, banded columns and footings, trying to keep the cost of the structure within safety limits, meeting the aesthetic needs of the building.
GENERAL STUDIES III	EG	
PROFESSIONAL SEMINAR	AR 470	Apply the knowledge and skills developed through this semester, through learning experiences in professional projects in architectural and interior design firms that are public and private companies, which require solving real design problems and construction under the supervision of a professional. The project will last 320 hrs.
CONSTRUCTION COSTS	AR 472	Analyze the value of building different types of projects according to your specifications and material, human resources, machinery and equipment costs needed to carry them out.
CONTEMPORARY ARCHITECTURE	AR 430	Support the pluralistic condition of contemporary architecture, relating ideological and formal changes to structural and technical innovations, since the mid-20th century to the present.
STRUCTURAL DESIGN APPLICATIONS	AR 441	Analyze the inner workings of structural steel in tension and precast prestressed concrete; identify the basics of seismic risk in buildings; propose structural forms that are suitable for projects located in risk areas, through proper seismic-resistant design; apply architectural designs specialized resources, relevant current information technology in the field of structures for proper structural design and in keeping with its spatial form and structural systems and materials chosen.
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
ARCHITECTURAL DESIGN WORKSHOP VII	AR 411	Develop architectural proposals that differentiate vulnerable environments and unconventional features. Evaluate the potential of the site and create responses to the natural environment.

CONSTRUCTION SITE PLANNING AND CONTROL	AR 473	Analyze the different techniques to plan and control an architectural project's construction process to determine the needs and auxiliary organization to carry it out.
ELECTIVE II		
GENERAL STUDIES IV		
ARCHITECTURAL DESIGN WORKSHOP VIII	AR 412	Master the use of issues that support the student's resume; show that they can lead methodologically individual design processes, support decisions and actions as well as generate the specifications of the architectural project.
REAL ESTATE PROMOTION	AR 474	Understand administrative processes in property development, analyzing the participation of other disciplines in the implementation of architectural projects.
GRADUATION PROJECT I	AR 498	Create a research project as a final architectural project, depending on the graduation option the student has chosen.
GRADUATION PROJECT II	AR 499	Apply the results obtained in the first part of its "graduation project", whether you have chosen to undertake a thesis or a project, and develop the final report, which will get you to the licenciatura degree once you have passed the professional examination, which should be done at the end of this course.
PROFESSIONAL DEVELOPMENT	AR 475	Understand professional practice; find the areas that are most relevant; the possibilities of architecture in the field of professional practice and integration requirements of a portfolio of work.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
ELECTIVES		
URBAN PLANNING II	AR 461	Synthesise knowledge about planned interventions in a neighborhood, sector or city district. Development based on the analysis and synthesis of social, technological and cultural issues, considering the role of the user and the existing construction and environmental regulations.

HOUSING	AR 463	Understand housing and residential complexes. Develop based on the analysis and synthesis of social, technological and cultural issues, considering the role of the user and the applicable regulations. Answer housing problems by tackling techniques and research tools for subsequent interpretation, experimentation and design of s housing paces in a real city context.
SELECT TOPICS IN TECHNOLOGY	AR 420	Identify current trends, emerging fields and technological innovations applicable to architecture.
BUILDING AUTOMATION	AR 424	Identify the latest advances in building automation and services by analyzing functions that are developed and new technologies.
ARCHITECTURAL SUSTAINABILITY	AR 426	Demonstrate environment impact in the natural environment and the need to incorporate methods and techniques that guarantee sustainable development.
INTRODUCTION TO ENVIRONMENTAL ENGINEERING	IC 402	Identify the main water, soil and atmosphere pollutants, as well as traditional and emerging technologies used to control them, and thus demonstrate the relevance of Environmental Engineering in the professional performance of civil engineers.
MANAGING CONSTRUCTION PROJECTS	IC 406	Substantiate the need and steps to carry out construction project management and construction project design, includingthe necessary management to carry it out (construction, planning, scheduling and control). Plan risk management for a construction industry project and explain the need for quality control in a construction industry project.
ANALYSIS BY WIND AND MASONRY STRUCTURES	IC 415	Evaluate and calculate structural elements due to loads; efficiently operate procedures to design masonry and apply wind analysis criteria in various structures.
SEISMIC DESIGN AND ANALYSIS	IC 425	Know the origin and causes of earthquakes, their effects on buildings, and the behavior of materials and structural systems to seismic action. Understand the criteria for seismic analysis of structures with static and dynamic methods according to complementary technical standards the current federal district regulations, to identify the seismic damage in buildings, and the criteria for earthquake resistant structures.

LICENCIATURA IN INTERIOR ARCHITECTURE

DESIGN WORKSHOP I: ARGUMENTS	**AI 111**	Master the basic arguments that support an architectural proposal and recognize them in a spatial design, using the elements and basic design concepts in creating spatial models that solve design problems of low complexity.
INTERIOR PROCESSES AND STRATEGIES	**AI 130**	Identify the participation of the interior architect in the design of living spaces. Analyze and identify processes and design strategies that create the interior space to logically steer you to a design process, arguing for their proposals and communicating their intentions.
UNDERSTANDING FORM AND SPACE	**AR 150**	Identify the characteristics of form, geometrical bodies and surfaces, defining the object and the architectural space. Project ways that they relate and identify with the elements of the architectural space.
ARCHITECTURAL SKETCH	**AR 152**	Use shape and space through architectural freehand drawing. Debate their sketch designs to represent the concepts used and apply the conventions of architectural drawing to communicate design ideas.
ELECTRONIC IMAGE	**DV 111**	Use computers as tools to create and edit images and texts for design projects.
GENERAL STUDIES I	**EG**	
DESIGN WORKSHOP II: CRITICAL JUDGEMENT	**AI 112**	Analyze and create critical judgments about different concepts, methods, processes and basic techniques that generate a design proposal that is functional and has spatial complexity; apply the basic concepts of the customer, providing function and support and integrate them into a simple project. Apply the knowledge acquired during the first two semesters to solve low complexity spatial problems.
ARCHITECTURE IN HISTORY	**AR 134**	Interpret design intentions present in Western architecture, including interior and exterior elements, from its origins to the 18th century (excluding Mexico, which is discussed in another course), through an analysis of spatial models, environmental qualities, construction and structural models and social uses of space.
STRUCTURAL PRINCIPLES	**AR 141**	Analyze and demonstrate the structural logic of various structural systems, to implement them as fundamental tools in making structural decisions applied to architectural projects.

REPRESENTATION AND PERSPECTIVE TECHNIQUES	AR 155	Graph the architectural space by applying basic techniques of architectural representation in architectural and interior design projects. Explore the form and space from different perspectives.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
HUMAN BODY AND SPACE	AI 211	Analyze and evaluate the profile of the user and their needs to generate optimal spatial and environmental responses to human life.
MEXICAN ARCHITECTURE	AR 231	Identify in art and architectural solutions in Mexico, their techniques and functions corresponding to the influence of climatic, social and cultural, economic, and political factor, until the 19th century.
INTERIOR ENVIRONMENT	AI 240	Analyze the relationship between man, their functions, psychological needs and inner space, to make proposals that help design decision-making.
COMPUTER ARCHITECTURAL DRAWING	AR 250	Visually and graphically represent architectural and interior projects using computer programs such as Autocad ® and Architectural ® or others. Also relate the objectives of architectural representation with their structural and constructive counterparts.
SECOND LANGUAGE II	ID	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
BEHAVIOR AND SPACE	AI 212	Analyze private and public scenarios of human activities as behavioral contexts. Manage environmental concepts to provide answers to design problems related to learning experiences and recreation spaces.
MODERN ARCHITECTURE	AR 232	Identify the causes of the modern architecture movement, critically based on their contributions and outlining design methods used in the study period, ranging from the 19th century to the first half of the 20th century.

ENVIRONMENTAL PERCEPTION	AI 241	Identify and analyze the origin and mechanism of human feelings and perceptions and the impact of these phenomena in the environmental quality of interior spaces.
EXTERIOR ENVIRONMENT	AI 242	Identify and understand environmental elements and analyze their role in exterior spaces.
DIGITAL SIMULATION	AR 251	Use the right software to create, manipulate, analyze and represent projects, with the help of three-dimensional digital models and interior architectural projects.
SECOND LANGUAGE III	ID	
IDENTITY AND SPACE	AI 311	Identify and analyze the purpose of identity and its impact on solving spatial problems at the individual and group level. Apply and manage the concept of identity in solving commercial and corporate spaces.
INTERIOR PROCEDURES	AI 320	Analyze the materials and finishes used in interior spaces and evaluate their characteristics to select the most appropriate solution in a spatial, functional or image problem.
TECHNOLOGICAL SYSTEMS	AI 321	Identify the use of different power, evacuation, thermal control, communication and security systems in interiors, to apply this basic technology in design proposals.
INTERIOR DESIGN MODELS	AI 330	Analyze different interior spaces models, created through time, identifying the design intentions of each to help formulate their own arguments in design proposals.
ARCHITECTURAL COMMUNICATION	AI 351	Visually and graphically communicate architectural and interior ideas and proposals through worksheets or posters using different manual and digital techniques and tools.
CULTURE AND SOCIETY	AN 120	Master, identify and debate the fundamental concepts, as well as data and achievements of ethnological science, to discern, describe, analyze, and compare the great cultural diversity and similarities that characterize the social life of human communities.
CULTURAL SPACE INTERPRETATION	AI 312	Analyze and assess cultural contexts and their impact on interior spaces. Propose creative solutions to reuse spaces that interpret cultural aspects.

ENVIRONMENTAL QUALITY	AI 322	Solve acoustic and thermal comfort interior architecture environmental problems. Base the diagnosis so that it is possible to propose shapes, dimensions, finishing materials and design specifications suitable for the optimum operation of buildings; master the skills needed to collaborate with interdisciplinary teams responsible for the design and construction of such spaces.
EMERGING MATERIALS AND PRODUCTS	AI 323	Identify the usefulness of new technologies and innovative materials and create criteria to optimize functionality, image and environmental quality of an interior space.
CONSERVING HERITAGE	AR 331	Support the need to preserve and keep alive natural and cultural heritage by acquiring a conservation ethic that will allow students to learn to reconcile the interests of building practice with the permanence of the heritage; at the same time students learn to interpret the present conditions to make proposals for intervention to preserve and improve their environmental qualities.
SPATIAL ELEMENTS	AI 342	Identify the main elements of a complementary interior space, analyzing and evaluating their role in the image space and comfort environmental solution.
GENERAL STUDIES II	EG	
PROFESSIONAL SEMINAR	AR 470	Apply the knowledge and skills developed through this semester, through learning experiences in professional projects in architectural and interior design firms that are public and private companies, which require solving real design problems and construction under the supervision of a professional. The project will last 320 hrs.
	AI 421	
CONTEMPORARY ARCHITECTURE	AR 430	Support the pluralistic condition of contemporary architecture, relating ideological and formal changes to structural and technical innovations, since the mid-20th century to the present.
INTERIOR COSTS	AI 471	Analyze the factors that make up the cost of an interior project. Identify the methodology used in costing an interior architectural project to define the final price.
SOCIAL RESPONSIBILITY	RS 498	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.

SPATIAL INTERDISCIPLINATY ACTION	AI 411	Identify and analyze different views on the topic and summarize them in an interdisciplinary solution to a space problem that responds to the changing demands of society and to the specific needs of the community.
INTERIOR MANAGEMENT	AI 472	Identify processes and actions involved in managing an interior project. Establish the planning process and control as a fundamental part of the project.
CURRENT THINKING TOPICS	FI 345	Evaluate contemporary issues from academia that are currently redefining the contents of disciplines such as philosophy, anthropology and sociology. Analyze readings grouped into themes such as "cultural studies", "globalization", "postcolonialism" or "Latin American thought"
GENERAL STUDIES III	EG	
SUSTAINABILITY AND SPACE	AI 412	Evaluate the contemporary lifestyles and seek sustainable design responses to current environmental problem
PROFESSIONAL DEVELOPMENT	AR 475	Understand professional practice; find the areas that are most relevant; the possibilities of architecture in the field of professional practice and integration requirements of a portfolio of work.
GRADUATION PROJECT I	AR 498	Create a research project as a final architectural project, depending on the graduation option the student has chosen.
GENERAL STUDIES IV	EG	
GRADUATION PROJECT II	AR 499	Apply the results obtained in the first part of its "graduation project", whether you have chosen to undertake a thesis or a project, and develop the final report, which will get you to the licenciatura degree once you have passed the professional examination, which should be done at the end of this course.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
ELECTIVES		
FURNITURE DESIGN	AI 461	Analyze the furniture design and production process. Analyze the relationship of furniture in its cultural context through time, and the relationship of art and design materials.
MUSEOGRAPHY	HA 205	Master the general problem of museology.
SCENERY FUNDAMENTALS	TE 131	Recognize the basic elements of the stage, stage design and lighting as applied in the design of space for project staging.

MARKETING FUNDAMENTALS	MK 111	Analyze marketing elements in detail to develop marketing strategies, which include the target market analysis and marketing mix.
CONSUMER BEHAVIOR	MK 215	Analyze the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.

LICENCIATURA IN CULINARY ARTS

DISCOVERING THE CULINARY WORLD AND HYGIENE	GA100	Use different equipment and supplies in theoretical and practical classes. Apply the basics of hygiene and safety. Make educational visits to markets and restaurants that offer the student a concrete vision of the contemporary culinary world.
DISCOVERING THE CULINARY WORLD AND HYGIENE LAB	GA 101	Apply theoretical knowledge in using classic culinary techniques to develop work through the kitchen teams. Test the effectiveness of health methods, health and safety in food and beverage production.
VEGETABLE AND FRUIT CUTTING AND PROCESSING	GA 110	Master the techniques of fruits and vegetables preparation. Cut and shape vegetables to preserve their flavor, have a uniform cooking and highlight their appearance; transform grains and legumes into attractive dishes. Use basic techniques. Identify differences between squaring, cutting into cubes or chopping, or how we will achieve a julienne. Use each of the techniques learned as a basis from subsequent workshops.
VEGETABLE AND FRUIT CUTTING AND PROCESSING LAB	GA 111	Apply theoretical knowledge of the handling, cutting and processing of different groups of vegetables to preserve their flavor, have a uniform cooking and highlight their appearance; transform grains and legumes into attractive dishes. Develop basic tasks in preparing vegetables using appropriate equipment and tools. Identify the names, dimensions and methods of basic, special and decorative cuts. Describe the key points for the mise en place of the station plant. Identify and classify each culinary product categories.

CUTTING AND PROCESSING MEAT AND POULTRY	GA 120	Master different cuts, parts and joints of the poultry and meat that require different cooking methods and vary depending on their individual characteristics. Identify the wide variety of products and specifications. Apply techniques to cut meat and poultry to maximize the quality offered to customers, adapting different cooking methods to existing products and all the sauces derived from them. Process through a wide range of cooking methods, whether wet or dry, meat and poultry are basic and important food products containing a high percentage of protein and a source of energy.
CUTTING AND PROCESSING MEAT AND POULTRY LAB	GA 121	Apply the basics in handling meat products such as inspection, sorting and storage. Identify primary cuts, secondary and special of each of the types of livestock, as well as variants of each country. Establish appropriate cooking methods depending on the physical characteristics of the different parts, relating directly to the type of meat, the content of collagen in joints and intramuscular fat according to the type of product, age and management. Compare the organoleptic characteristics of the product maturity periods of the product. Identify and classify each of the culinary categories of meat products and poultry.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
BUSINESS MATH	MA 117	Solve problems economic, administrative, accounting, and social sciences problems, efficiently using set algebra in solving problems of their professional area. Also, graph functions related to current business problems. Use algebra concepts to graph functions related to current business problems.
HISTORY OF FOOD TASTES AND CUSTOMS	GA 130	Identify the basic principles of the history of gastronomy and outline the most important history to enrich their knowledge and relate their professional development.
GENERAL STUDIES I	EG	

DISCOVERING THE WORLD OF PASTRY AND HYGIENE	**GA 140**	Analyze all pastry components, from basic hygiene rules to the use of all existing equipment today. Schedule trips and visits to companies and industries to obtain organizational requirements and tasks of a typical workday.
DISCOVERING THE WORLD OF PASTRY AND HYGIENE LAB	**GA 141**	Apply theoretical knowledge to identify, handle and store supplies used in professional bakeries. Create different finished products identifying the function of each of the ingredients such as: leavening, stabilizers and softeners. Suitable methods and establish accurate measurement weights and volumes of the various ingredients either dry or liquid, applying equivalence tables and equipment suitable for this purpose. Identification and classification of each of the characteristics of the products in bakery.
PASTRY BASES	**GA 150**	Understand the different baking components and processes. Identify the different families of existing products, and the range of raw materials used, classified according to different criteria such as: product type, country of origin, color, texture and aroma.
PASTRY BASES LAB	**GA 151**	Apply the basic criteria mise en place in the pastry area, such as: Sift dry goods, cook sugar at different points, from simple syrup to candy; whipping cream and egg whites at different points, incorporating air. Devise basic preparations such as meringues, pasta and cake bases. Identify and classify each of the bakery products categories.
PASTRY FABRICATION TECHNIQUES I	**GA 160**	Analyze the logistics involved in production processes, ranging from how to make a recipe, units of measurement products, organization of the work area, characteristics of the laboratory, to the specific use of different products. Master the different stages of the process and respect the basic principles of production techniques necessary to achieve a sauce. Master manufacturing processes and properly use the raw materials and previously analyzed processed products.
PASTRY FABRICATION TECHNIQUES LAB I	**GA 161**	Apply different techniques to produce commodities such as dough, pasties and creams, used as primary elements in the production of finished dishes. Develop working methods and appropriate organization within the specific discipline. Use different cooking equipment and analyze the results of the process. Identifiy and classify each of the bakery products categories.

PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
FINANCIAL ACCOUNTING	FC 112	Analyze the different types of organizations and different financial statements to make proper decisions.
GENERAL STUDIES II	EG	
CUTTING AND PROCESSING FISH AND SEAFOOD	GA 170	Process sea products. Select seafood available, master cooking techniques. Use management techniques, evaluation and preparation of different types of products as well as traditional cooking methods. Analyze regional aspects and seasons of products for maximum performance. Harmonize seafood with different cooking methods, sauces and wines. Develop costing and comparing losses of conventional and underused species.
CUTTING AND PROCESSING FISH AND SEAFOOD LAB	GA 171	Describe the technology and cutting techniques and processing ofround and flat fish, mollusks and crustaceans. Establish classic cooking methods and suitable contemporary methods for different fish and shellfish species. Differentiate between different terms or points of cooking products of the sea. Control rate decline and develop the cost of dishes. Identify and classify each of the culinary seafood categories identified in the different primary and secondary cuts.
BUSINESS FUNDAMENTALS	BA 111	Analyze administrative process theory, defining its strengths and weaknesses, while studying theoretical alternatives that can solve the differences.
COOKING TECHNIQUES IN THE KITCHEN	GA 180	Use older Asian cooking method through the wok, the mechanism of the-art cooking by induction; analyze and debate about the wok and induction and how they could be combined to achieve the famous induction wok. Analyze the results of the different cooking techniques that are essential in this profession. Use the latest equipment and the most modern tools, apply their knowledge in the use of vacuum pumps, blast chillers, and induction elements, in the same way they do in an iron skillet or wok.

COOKING TECHNIQUES IN THE KITCHEN LAB	**GA 181**	Develop and implement the basic mise en place for the production of primary recipes, such as aromatics fittings, thickeners, and mixtures of spices and seasonings in the production of food. Prepare infusions in liquids, specifying origins and culinary uses. Categorize sauces derived by applying them to various food products. Set methods of cooking techniques, classical and contemporary meat, seafood, vegetables, potatoes, grains, cereals, vegetables, pasta and egg.
DISCOVERING BAKERIES AND VIENNOISERIE	**GA 200**	Select from fresh fruit salad to the freshly baked bread. Master the basic techniques for production with high quality standards.
DISCOVERING BAKERIES AND VIENNOISERIE LAB	**GA 201**	Categorize the different techniques of classical and contemporary breadmaking, using different types of yeast, fats, refined flours and grains. Establish the characteristics of the product according to the gluten content. Identify and classiffy different products used in bakeries.
PASTRY FABRICATION TECHNIQUES II	**GA 210**	Analyze the logistics involved in production processes ranging from how to make a recipe, units of measurement products, organization of the work area, characteristics of the laboratory, to the specific use of different products. Identify the different stages of the process and respect the basic principles of the organization are some of the production techniques necessary to achieve a sauce.
PASTRY FABRICATION TECHNIQUES LAB II	**GA 211**	Establish and implement different methods to mix the baked products, selecting the various products, and preparing the mise en place of production of bakery products and pastries. Evaluate the organoleptic characteristics of the final product.
RESTAURANT BREAD	**GA 320**	Identify bread as a product and exceptional moment in a restaurant. Apply the originality of bread with surprising combinations of new flavors and textures such as: Brioche, olive bread, fig bread or bread natural leavening, so that the student masters production techniques to the different process types of masses. The student will improve their skills, time will be dedicated to the pairing dishes with different types of bread. Depending on the various components of the bread, as well as those of the plate, make some combinations as are bread with fresh goat cheese

RESTAURANT BREAD LAB	GA 321	Understand the range of bakery products establishing organization and methods of production of the different types of weight according to the subsequent use. Select the equipment and ingredients for each specific cooking method. Improve their skills and devote time to pairing dishes with different types of bread. Depending on the various components of the bread, as well as those of the plate, make some combinations. Identify and classify different products used in bakery.
GENERAL STUDIES III	EG	
SECOND LANGUAGE III	ID	
SERVICE MARKETING	MK 216	Plan and implement marketing strategies for services businesses. Analyze service organizations and adjust marketing goals and strategies accordingly
GENERAL STUDIES IV	EG	
TECHNICAL CULINARY LANGUAGE	GA 220	Apply different culinary terms in specialty food laboratories to understand different elements, methods and techniques in the production processes of the culinary arts in the languages most used in the world cuisine.
THE ART OF TABLES, CUTLERY, GLASSWARE AND TABLECLOTHS	GA 230	Analyze the status of a restaurant through the kitchen, pastries, wines and spirits that are the most common criteria on which customers are based. Determine in relation to all the utensils on the table, which would be the concept if we had a salad but served in a crystal goblet; dishes with forms in new ways; or even a spoon with embedded chocolate expresso. Create all these new ideas, with modern colors and textures that are part of the new concepts and criteria that a high-level Chef will need to evaluate and implement to adapt their current restaurant trends in gastronomy. Improve tables by mounting demonstrations, vendor selection, and different restaurant concepts.
THE ART OF TABLES, CUTLERY, GLASSWARE AND TABLECLOTHS LAB	GA 231	Apply the methods of organizing the dining room of different food service operations and drink, from coffee bars to a restaurant of haute cuisine. Knowing the different teams for assembling tables according to the category and volume of categorizing service table utensils such as plaque, crockery, glassware and linens. Develop mounting demonstrations tables, vendor selection, and different restaurant concepts.

STATISTICAL ANALYSIS	**AE 242**	Analyze and interpret data through extraction, recognition, classification, description, presentation, and inference based on theoretical and practical foundations to understand, use, compare and reorganize information.
MEDITERRANEAN COOKING	**GA 240**	Specialize the Chef's professional development. Demonstrate methods to meet growing demand for this healthy and delicious culinary tradition. Prepare dishes of southern France, Spain and Italy; Turkey and Greece, as well as countries in North Africa such as Morocco and Tunisia. Analyze the wide range of ingredients and basic preparations enhance the flavors and using different mixtures and combinations of herbs and spices.
MEDITERRANEAN COOKING LAB	**GA 241**	Establish direct links environmental and cultural conditions with the diet of the specified region. Categorizing food products common in all countries that share this area. Distinguish culinary techniques commonly used by food availability per season. Analyze real health benefits to practicing the lead consumption of Mediterranean dishes. Identify the different culinary regions of Mediterranean cuisine. Develop different techniques in common use throughout the region
CHOCOLATE, ENTREMETS, PIES AND CAKES	**GA 250**	Implement new operational techniques in the development of classic desserts with higher technical difficulty. Around specific themes, such as Christmas, Easter or birthdays, as well as international specialties.
CHOCOLATE, ENTREMETS, PIES AND CAKES LAB	**GA 251**	Apply prior knowledge and techniques to develop operational skills and technology in the development of classic and contemporary desserts more difficult. Set methods of production and handling of chocolates and derivatives. Identify categories and levels of quality chocolate coating for professional and craft making individual pieces.
CLASSIC FRENCH CUISINE	**GA 260**	Analyze a broad overview, techniques and development of classical French cuisine, promptly shall apply to the use of vegetables classic and original way. Involve a number of techniques, in some cases extremely complicated, which are the basic elements. Apply the simplest technique requires not only great skill, also a deep understanding of the ingredients themselves.

CLASSIC FRENCH CUISINE LAB	GA 261	Use the techniques and methods of one of the most important culinary cultures worldwide. Develop products based on food quality in some extremely expensive and difficult to get cases, which are the elements commonly used in France. Mastering these elements is the central point of the culinary arts, and therefore become classics and constant. Identify the different culinary regions of classic French cuisine.
THIRD LANGUAGE I	ID	
REGIONAL AND THEME FRENCH CUISINE	GA 270	Analyze French cuisine, with an emphasis on regions and issues of France, to develop advanced, simple, classic and original techniques.
REGIONAL AND THEME FRENCH CUISINE LAB	GA 271	Develop the most representative of each of the French regions dishes. Describe the wide variety of products and their individual importance by the tradition of its cultivation and processing through many generations of peasants and artisans, why in many cases have appellations of origin. Identify the different culinary regions of regional French cuisine. Develop different techniques in common use throughout the region.
COST ACCOUNTING	FC 231	Apply different methods to cost products and services, interpreting the resulting financial information to make decisions.
ECONOMIC PRINCIPLES	EC 105	Develop the basic elements of economic analysis emphasizing their application to understanding contemporary economic phenomena.
CLASSIC FRENCH CUISINE	GA 260	Analyze a broad overview, techniques and development of classical French cuisine, promptly shall apply to the use of vegetables classic and original way. Include several techniques, in some cases extremely complicated, which are the basic elements. Apply the simplest technique requires not only great skill, also a deep understanding of the ingredients themselves.
CLASSIC FRENCH CUISINE LAB	GA 261	Use the techniques and methods of one of the most important culinary cultures worldwide. Develop products based on food quality in some extremely expensive and difficult to get cases, which are the elements commonly used in France. Mastering these elements is the central point of the culinary arts, and therefore become classics and constant. Identify the different culinary regions of classic French cuisine.
INFORMATION MANAGEMENT	BA 230	Assess the strategic importance of information technology in organizations and develop the skills to use it as support in operations, decision-making and competitive advantage of organizations.

ASIAN CUISINE	**GA 300**	Analyze the vibrant flavors of Asia, through the knowledge of different gastronomic regions, their flavor profiles and the wide range of ingredients. Cook specialties from China, Korea, Japan, Vietnam and Thailand. Apply new cooking techniques such as rapid frying, frying in deep steam and braised. Using the skills necessary to imagine and create new dishes.
ASIAN CUISINE LAB	**GA 301**	Implement and develop the fundamental principles of Asian cuisine through typical recipes from each of the regions and their representative products among China, Korea, Japan, Vietnam and Thailand which. Apply new cooking techniques such as rapid frying, frying in deep steam and braised. Use the acquired skills to design and implement creative Asian menus. Identify different culinary regions of Asian cuisine. Develop different techniques commonly used throughout Asia.
FRUITS, SORBETS, ICE CREAM AND PLATED DESSERTS	**GA 310**	Analyze cakes and pastries which is a world full of surprises. Classic pastries found in boutiques patisseries, or specialty breads in the prestigious artisan bakeries, give a twist to this passionate professio. Specifically designed for immediate consumption, plated desserts are the perfect opportunity to surprise diners with a spectacular piece in the main dining room. Make the right combination with all the menu items and wine, appreciate the work of this specialty. In addition, use fruits from around the world, frozen preparations and additional decorations, make sorbets, granitas, ice cream parfaits and other frozen surprises.
FRUITS, SORBETS, ICE CREAM AND PLATED DESSERTS LAB	**GA 311**	Analyze classic "boutique" cakes and pastries to become representative plated desserts, adapted to the service in restaurants. Design desserts for immediate consumption and individualized, to develop specific recipes or techniques such as sorbets, granitas, ice cream, Haladas creams, ice cream parfaits enter others. In addition to carrying out such techniques.
OENOLOGY	**GA 245**	Categorize and differentiate different types of wine from different parts of the world, according to their characteristics, properties, origin, marriage, quality and taste.

FOOD TRANSPORTATION SERVICES	**GA 330**	Respond to consumer needs of travelers with a new specialty developing cuisine: The kitchen in transport. Analyze this specialty that is focused on the three main means of transportation, aircraft, rail and ships. Apply new cooking techniques and use of equipment designed specifically for that purpose. Hand in hand with the above, a new generation of packaging that are changing the way customers consume their food will be shown to students
FOOD TRANSPORTATION SERVICES LAB	**GA 331**	Analyze and design culinary specialties proposing adapted to the three main means of transportation, aircraft, rail and ships. Apply new cooking techniques and using equipment specifically designed for this purpose as thermal regeneration plates mounted in combi ovens with controlled hygrometry. Select products and recipes adapted to this type of food service. Identify the types of packaging of new generation to improve in how customers consume their food. Apply new cooking techniques and use of equipment designed specifically to prepare dishes different means of transport.
DISCOVERING SERVICE	**GA 344**	Analyze the status of a restaurant through the kitchen, pastries, wines and spirits that are the most common criteria on which customers are based. Determine in relation to all the utensils on the table, which would be the concept if we had a salad but served in a crystal goblet; dishes with forms in new ways; or even a spoon with embedded chocolate expresso. Create all these new ideas, with modern colors and textures that are part of the new concepts and criteria that a high-level Chef will need to evaluate and implement to adapt their current restaurant trends in gastronomy. Improve tables by mounting demonstrations, vendor selection, and different restaurant concepts.
DISCOVERING SERVICE LAB	**GA 345**	Analyze the status of a restaurant through the kitchen, pastries, wines and spirits that are the most common criteria on which customers are based. Determine in relation to all the utensils on the table, which would be the concept if we had a salad but served in a crystal goblet; dishes with forms in new ways; or even a spoon with embedded chocolate expresso. Create all these new ideas, with modern colors and textures that are part of the new concepts and criteria that a high-level Chef will need to evaluate and implement to adapt their current restaurant trends in gastronomy. Improve tables by mounting demonstrations, vendor selection, and different restaurant concepts.

FINANCIAL MANAGEMENT I	**FC 361**	Play the role of financial manager in companies; the different ways in which they operate; understand the basic tools of financial analysis and planning; evaluate financial performance by analyzing financial ratios and cash flow, asset structures and financial structure; understand the valuation of financial assets, the value of money over time, risk analysis and performance; the characteristics and ways to valuate fixed income securities and common shares in the domestic and international markets.
RESTAURANT MANAGEMENT	**HR 440**	Identify and evaluate the different concepts of the actual operation of the service industry in restaurants and bars. Plan the location and proper distribution of the dining room and a restaurant bar. Identify and use machinery, furniture and equipment necessary for proper operation. Analyze and debate about the most common drinks and required in a restaurant. Outline the different types of restaurants and services. Take control of a restaurant.
BUSINESS COMMUNICATION	**BA 105**	Master verbal and nonverbal communication tools. Act as a communication agent achieving informative and persuasive achieving objectives in organizations' public relations.
BEVERAGE SERVICE MANAGEMENT	**HR412**	Design and plan beverage services for the tourism industry. Handle different types of beverage services, understanding the distribution of a bar, and describing the various types of equipment and tools used in the preparation of beverages. Apply control systems, purchasing, costing and beverages and explain the different preparation and service techniques. Master the types and characteristics of the various fermented beverages and distilled spirits, and their relationship with the administration of the service.
COLLECTIVE CUISINE	**GA 340**	Master organizational processes and logistics to comply with current legislation regarding the requirements and standards of hygiene, nutrition and quality, and in the same way use of specific equipment and services. Apply organizational tools and techniques to achieve a novel culinary offer that meets the demands of the consumer. Adapt recipes to satisfy consumers who expect the same quality as in a traditional restaurant.

COLLECTIVE CUISINE LAB	GA 341	Master organizational processes and logistics to comply with current legislation regarding the requirements and standards of hygiene, nutrition and quality, and in the same way in the use of specific equipment and services. Apply organizational tools and techniques to achieve a novel culinary production that meets the demands of the consumer. Adapt traditional recipes to satisfy consumers who expect the same quality as in a restaurant. Understand the use of the specific production equipment as kettles pressure, tilting pans. Identify the equipment used in the food service group. Logistics design plans for the operation of various types of community services.
NEW WORLD CUISINE	GA 350	Identifying fusion cuisine regional cooking, the American multi-blade mixing a wide variety of flavors and cooking techniques. Through the most profitable, important and current trends in American cuisine, identify the most popular ethnic traditions in gastronomy and local specialties in contemporary America.
NEW WORLD CUISINE LAB	GA 351	Analyzing the American multicultural palette offers a wide variety of flavors and cooking techniques. Identify the main ethnic traditions in American cuisine as well as local dishes and specialties most representative to develop complete menus representative of each of those regions. Build and develop menus crossbreeding techniques, products and specialties to propose a fusion cuisine type. Identify the different culinary regions of the multicultural American cuisine. Development of different cooking techniques in common use throughout the region.
SUGAR IN THE WORLD	GA 360	Produce small candies and cakes you, although these pieces are highly perishable, demonstrations and work with masterpieces sugar.
SUGAR IN THE WORLD LAB	GA 361	Understand and apply the mechanism cooking sugar. Developing a production of small decorative pieces cooked sugar sugar as stretched, blown sugar, sugar casting. Adapting the classic production of sugar decorative pieces using cutting-edge products such as isomalt. Learn to paint or color the work done with food coloring using various tools such as brush or airbrush among others. Demonstrations and work with masterpieces of sugar. Identify and classify each of the products used in manufacture of decorative pieces with sugar and derivatives. Develop handling techniques for making decorative pieces using as base and sugar derivatives.
HOTEL RESTAURANTS	GA 370	Manage the variety of strict criteria such as: color, decoration, music, uniforms and tableware; solve all contingencies mentioned in specific situations

HOTEL RESTAURANTS LAB	**GA 371**	Handle variety of strict criteria such as: color, decoration, music, uniforms and tableware; solve all contingencies mentioned in specific situations. Adapt the food supply and service the different levels as well as hotel guests. Locate the needs of each department as the main restaurant of the hotel, room service, catering services and applying them to interpret them through case studies. Identify different areas of production and service within a hotel (room service, banquets, poolside grill, etc).
THIRD LANGUAGE II	**ID**	
CREOLE AND PANAMERICAN CUISINE	**GA 380**	Master methods to meet the demand for dishes with a multicultural culinary influence. Prepare a variety of native dishes from North, Central and South America, discovering the different flavor profiles of each cuisine including those with Creole influence. Prepare all the recipes with indigenous ingredients and methods common in Latin American cooking
CREOLE AND PANAMERICAN CUISINE LAB	**GA 381**	Propose menus and specialties representative of each culture, ethnicity or geographic region to generate practical applications through themed meals. Mastering methods to meet the demand for dishes with a multicultural culinary influence. Prepare a variety of native dishes from North, Central and South America, discovering the different flavor profiles of each cuisine including those with Creole influence. Prepare all the recipes with indigenous ingredients and common cooking methods. Identify the different culinary regions of multicultural Creole cuisine and Pan. Develop different culinary techniques in common use throughout the region.
COMMERCIALIZATION	**GA 390**	Understand the design and science in kitchens. Using all new techniques in terms of cooking, preparation and presentation, analyzing some cases and examples to have a first approach to new trends in the culinary design. Argue about the history of design and outline its evolution until the time reaches the culinary world

COMMERCIALIZATION LAB	**GA 391**	Analyze the role of the d'hotel maitre or waiters at the time of taking an order, an order. Identify and illustrate the role that marketing has currently. Distinguish the needs of each client to propose a personalized way. Mastering the contents of each dish letter to build a commercial argument for each of them. Standardize a method of making reservation depending on the medium used (telephone, direct, internet). Categorize the different media sales and be able to set an example for each type of facility. Develop different processes, sales and marketing for each of the establishments. Identify the needs of each client to master the content of the letter saucer.
SOMMELLERIE	**GA 412**	Analyze the processes of winemaking, different strains and their taste characteristics and identify the main wines produced in the old world, as well as those of the new world such as South Africa, Argentina, Chile, United States and Mexico.
SOMMELLERIE LAB	**GA 413**	Distinguish and manage a wide range of wines through sensory analysis techniques, provide service in the professional field, and develop a wine list that suggests a suitable pairing with food chart.
KITCHEN DESIGN AND PLANNING	**GA 400**	Analyze strategic planning steps in the design, implementation and maintenance of equipment for the food service presentation.
KITCHEN DESIGN AND PLANNING LAB	**GA 401**	Analyze the design and science in kitchens. Understand the history of design and its evolution until the time it reaches to the culinary world. Tailor each kitchen design proposal for the type of restaurant that is created by considering the physical characteristics of each place (creating a building or adapting an existing one). Master ergonomics in kitchen work, principles of safety, hygiene, implementation of the heavy material and structure in specific areas of work (from receipt of inputs to the service of the dish on the table of the client).
MEXICAN CUISINE	**GA 410**	Analyze the basic principles of the history of Mexican cuisine and record the most important history of it to enrich their knowledge and relate their professional development. Likewise, the techniques and specific equipment used for the production of own dishes from each of the gastronomic regions of the country.

MEXICAN CUISINE LAB	**GA 411**	Identify and classify Mexican gastronomic specialties regionally. Apply these specialties through regional menus using specific equipment needed as the comal, the Molcajete, the metate, etc. Define the representative products that built Mexico's modern gastronomic identity. Propose a modernization of the most representative dishes to meet the needs of today's consumer. Identify different culinary regions of Mexican cuisine. Develop different techniques in common use throughout the region.
GRADUATION PROJECT I	**GA 495**	Analyze scientific research to create a research paper.
PROFESSIONAL SEMINAR	**GA 472**	Comprehensively implement all the knowledge acquired and even analyze processes and problems in the company to propose solutions or alternatives for action.
SOCIAL RESPONSIBILITY	**RS 498**	Reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way
HYGIENE AND HACCP	**GA 420**	Comprehensively implement all the knowledge acquired and even analyze processes and problems in the company to propose solutions or alternatives for action.
WORLD RESTAURANT CONCEPTS	**GA 430**	From McDonald's to Nobu, from Pizza Hut to Spoon; All restaurants have their own concept, from the decor, tableware, uniform, type of cuisine to the planning of the economic model. Create a concept, establishing tools and processes to follow, train your team and how to solve local problems. Analyze all these questions to be able to develop your own concept, whether culinary, in confectionery or bakery.

LABOR LAW	DE 342	Master the following concepts, practices and techniques: History, socio economic and political relevance of the Labor Law in the world, in Mexico, and workers and trade unionists linked movements. The management of individual labor relations, its legal institutions. Management of collective labor relations, its legal institutions. Rights and obligations for workers and employers. Negotiating a strike from the workers 'or employers' perspective. The content and the development of an individual employment contract, a collective employment contract and a contract law or industry. Knowing the unions, its structure, standards, performance and importance.
HUMAN RESOURCES MANAGEMENT	BA 211	Analyze and apply the most important HR concepts and functions within organizations
GENERAL STUDIES V (CO-CURRICULAR)	EG	
GRADUATION PROJECT II	GA 496	Develop and finalize the research project focused on developing a business plan related to Culinary Arts, under the direction of a faculty member.
INTERCULTURAL ADMINISTRATION	NI 340	Identify the main cultural differences between blocs of countries, to be able to develop effective management strategies. Master international expansion strategies and understand their implications in the administrative processes of organizations.

LICENCIATURA IN FINE ARTS

ART, HISTORY AND CULTURE	AS 137	Acquire the knowledge to interpret art history elements under the with the political, social, cultural and economic variables of world history and be able to apply the theoretical foundations of his art projects
ART AND ITS DISCOURSES I	HA 108	Master the peculiarities of the socio-cultural context that led, in the Western context, the invention of the art. Also, master the specific problems of the construction of the discourses of art and, therefore, of the art prior art, of art for art and the art after art. Mastering the problems of the categories of art speeches / about art.
TECHNIQUES AND MATERIALS	AP 110	Distinguishing the different materials and hardware used in the basic techniques of application pictorial oil, tempera, encaustic, synthetic media and different media, using knowledge of the theory of color to be applied in its plastic work trestle.

ELECTRONIC IMAGE	DV 111	Master the use of the computer as a useful tool for generating programs, text editing and designing their own presentations and implementing techniques to their work as artists within digital image.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
ART AND SENSE	AP 112	Analyze the relationship between art and philosophy, from a historical perspective, to identify the result of the evolution of the philosophy of language and from a thematic perspective as a key element to understand the paradigm shift that characterizes cultural production contemporary and recently in the field of arts.
PHOTOGRAPHY I	DV 102	Use the basics of analog photography in black and white, dominating materials, processes and techniques. Checking in practice the knowledge acquired in the course through dynamic projects and issues used from the perspective of art with analog photographic concepts
PLASTIC ANALYSIS	AP 131	Identify the three-dimensional space from basics: Point, shape and volumetric spaces. Develop creative capabilities understanding through intuitive navigation and basic techniques used in sculpture.
REPRESENTATION FUNDAMENTALS	AP 101	Represent the fundamental elements of the drawing: point, line and plane, experimenting with basic materials and psycho-motor exercises with an intention of gestural immediacy, developing their expressive power in a problem of representation of space through the relationship of objects.
INTRODUCTION TO PAINTING	AP 251	Develop techniques for displaying images and objects in different display capabilities and spatiality painting oil, applying the theory of color and different forms of composition by means of the drawing and basic techniques for effective representation of space the painting.
GENERAL STUDIES I	EG	
ART AND SIGNS	AP 230	Master the theoretical principles that define the main semiotic schools through knowledge of history to apply the theoretical and didactic strategies of semiotics in their art projects.

SCOPE: INSTALLATION	**AP 457**	Understand spaces interpreting the facility as a semiotic model mode. Develop plastics intervention projects in public spaces, applying knowledge of the theoretical model of semiotics
REPRESENTATIVE PAINTING	**AP 252**	Build different possibilities for traditional pictorial representation of spatial relationships in painting, drawing the iconic space ratio and volume ratio an organization time and space visually and ways of interpreting perceived in the pictorial plane.
GRAPHIC REPRESENTATION	**AP 102**	Develop an understanding of the representation of three-dimensionality of space and temporality. Apply different types of perspective to build a model of the observed reality.
VOLUME AND COLOR	**AP 132**	Develop three-part sculpture, exploring shape, material, texture and color. Implement the technical skills to understand the model sculpture.
PROFESSIONAL WRITING	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
GENDER PAINTING	**AP 315**	Develop oil paints in the history of art, applying techniques and formats suitable to constructe the image of the representative genre.
INTRODUCTION TO HUMAN FIGURES	**AP 205**	Analyze, through direct observation, the possibilities of representing the human body in the graphic language of the drawing ratios, analyzing their representation and synthesis.
SCULPTURE AND MEDIA	**AP 233**	Configure dimensional forms under criteria established by a system of thought, identifying the qualities of the materials, their perceptible appearances, their spatial resolution of sculpture and its context, through the relationship of objects to each other in a logical space.
ART AND ITS DISCOURSE II	**HA 118**	Understand the socio-cultural context that led some European philosophers to develop the construction of a specific reflection on this field of specific objects called art from the eighteenth century. Also, learn some of the most outstanding positions of these speeches that have been reused by other theorists and artists throughout the 20th century to support their ideas and/or defend their plastic proposals
SERIGRAPHY	**AP 475**	Identify techniques screenprinting, through handling and use of the processes of stamping, developing appropriate means for screen reproduction on a personal project plastic.

SECOND LANGUAGE II	ID	
THEORY, REPRESENTATION, SIGN AND CULTURE	AP 405	Develop the analytical skills necessary to meet the field of plastic language using semiotic models and their different schools. Applying theoretical models in interdisciplinary art works.
ADVANCED PAINTING	AP 316	Analyze different types of pictorial representation from rhetorical models identifying their technical styles. Prepare a pictorial representation by mastering the techniques of painting and oil painting realistic interpretation possibilities.
INTERMEDIATE SCULPTURE	AP 234	Analyze space and volume problems traditional representation of the human figure to make sculptural projects linking different appearances perceivable materials. Consolidate the work of the level of understanding sígnico in the plane of three-part sculpture.
HUMAN FIGURE	AP 207	Represent correctly, by drawing the anatomical content of the human figure, developing their visual memory from exercises with male and female live model, dominating the complexity of the structure of the human figure and its environment in accordance with the laws of volumetric representation.
FIELD PRODUCTION WORKSHOP	AP 470	Analyze works where the body intervenes and art actions. Building in own practice and consistent arguments to the areas where it develops this kind of art.
ANIMATION	DV 306	Master the process and develop techniques for generating moving images. Relating the technical, theoretical and practical aspects of presenting sequenced and animated images, developing a digital video.
THREE-DIMENSIONAL PAINTING	DV 307	Master the technical and practical aspects of generating three-dimensional images still and moving through manipulation specialized in 3D animation software, provided by new technologies. Apply that skill to their plastic projects.
GRAPHIC EXPRESSION	AP 300	Develop strategies to develop the different possibilities of graphical representation in the drawing as an autonomous language of visual communication, using the different possibilities of graphical representation to master forms of plastic construction as a process of autonomous work.
ADVANCED SCULPTURES	AP 337	Configure forms dimensional formal under criteria established by a system of thought, identifying the qualities of the materials, their perceptible appearances and spatial resolution of the sculpture and its context through the relationship of objects to each other in a logical space mediate in the frame sculpture.

MUSEUM HISTORY AND EVOLUTION	**HA 218**	Analyze, identify and define related to the specific problems of the history and evolution of museums in the western area and in Mexico mainly, for example, the history and evolution of public museums directly related to the phenomena of different aspects democratization of culture and cultural tourism. Mastering the specific problems of museum architecture and its development in the 2nd half of the 20th century.
GRAPHICS	**AP 201**	Develop the principles of perceptible appearance on the chart in their relationship with their plastic qualities, identifying the techniques of graphic representation regarding the limits of their material qualities to the basic techniques of the intaglio and embossed.
SECOND LANGUAGE III	**ID**	
PLANNING ARTISTIC PROJECTS	**AP 271**	Develop methodologies and training strategies and public spaces of artistic development that can compete in the spaces culturales.Generando the knowledge and skills of spaces and the art market to be inserted in the professional career field.
LITHOGRAPHY	**AP 301**	Dominar la práctica con los medios y procesos que intervienen en la técnica artística gráfica de reproducción múltiple conocida como litografía, poder identificar las piedras y placas usadas para su elaboración y los procesos necesarios para ser grabadas e incorporando a las técnicas de representación gráfica del dibujo sus proyectos y al concepto de representación de libro de artista
PLASTIC INTEGRATION WORKSHOP	**AP 490**	Master different processes involved in the graphic art technique of multiple reproduction known as lithography, to identify stones and plates used for processing and the necessary processes to be recorded and incorporating techniques graphical representation of the drawing their projects and the concept of representation of the artist's book.
GENERAL STUDIES II	**EG**	
GENERAL STUDIES III	**EG**	
SOCIAL RESPONSIBILITY	**RS 498**	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
ART SOCIOLOGY	**HA 308**	Master the main features of discourses and methodologies of the sociology of art, between different approaches to the restructuring of the theory of art developed in the 2nd half of the 20th century.

GRADUATION PROJECT I	**AP 458**	Develop a plastic proposal and build a methodology for final project of their studies. Building an artistic project an experimental framework to allow it to develop and organize their knowledge and skills gained during the learning process of their curriculum.
BOOK OBJECT	**AP 462**	Use mapping techniques such as lithography, screen printing, digital photography and graphic, implementing them technical binding. Get a book object in an interdisciplinary project approached from a different perspective to the traditional print graphic.
GENERAL STUDIES IV	**EG**	
GRADUATION PROJECT II	**AP 459**	Apply the correct methodology for organizing your plastic proposal developed in Titling Project I. Designing the presentation of the project of their qualifications.
ART AND LITERATURE	**AP 241**	Understand the work of the most significant writers whose work has been developed in close relationship with the arts to gain an understanding of how the relationship between literature and the visual arts develops. Apply the possibilities that literature enrichment criticism of the arts in writing project.
GENERAL STUDIES V (CO-CURRICULAR)	**EG**	
ELECTIVES IN VISUAL INFORMATION DESIGN		
PHOTOGRAPHY II	**DV 205**	Master the theoretical foundations of elements that make up the visual structure of photography. Develop digital photographic projects and large format analog photography exercises in color and black/white.
AUDIO AND VIDEO PRODUCTION	**DV 408**	Build a broad methodological and technical knowledge for the management of the video image. Developing an edited and professional video project.
WEB DESIGN	**DV 417**	Apply the concepts and parameters necessary for the design and construction of an interactive online document (www). bypassing the structure and creating the elements that make up an online document for your own web page.
ELECTIVES IN HUMANITIES		
CULTURE THEORIES	**HU 120**	Analyze the main cultural manifestations of the 20th century (ritual, music, writing, orality and audiovisual), with the objective of establishing, paying special attention to syntactic features, a typology that groups the different variants of said manifestations.

CULTURAL RESEARCH AND CRITIQUE	HU 290	Develop the necessary tools to analyze cultural products and to put together a critique that serves to elucidate them and present them publicly. Develop practical mechanisms to detect points of interest in cultural productions (such as cinema, literature or art); Database and publication resources are identified where they can be contrasted and nurtured for their critical argumentation.
ELECTIVES IN ART HISTORY		
NEW TRENDS	HA 426	Present some of the developments in artistic practices, showing strategies and theoretical proposals of the last two decades and familiarize you with the new audiovisual syntaxes on which contemporary artistic practices are based.
CURRENT ART THEORY	HA 418	Understand the Modernity-Postmodernity debate as the axis of discussion in which to root the development of artistic practices throughout the 20th century and, especially, in contemporary times. Show a satisfactory understanding of the different approaches and controversies that make up the debate in question and an ability to use its terms in a critical and sustained way.
ART IN THE SECOND HALF OF THE 20TH CENTURY	HA 416	Apply the necessary foundations to interrelate art with the economic, philosophical, social and spiritual environment of the human being during the second half of the 20th century. Identify and understand the various changes and artistic proposals that occur in art and ideo-aesthetic thought during this time. Adequately use the theoretical and methodological instruments for a comprehensive reading and analysis of the works of art in the period studied.
ELECTIVES IN PHILOSOPHY		
CURRENT THOUGHT TOPICS	FI 345	Evaluate the contemporary problems that are currently redefining the contents of disciplines such as Philosophy, Anthropology or Sociology from the academic field. Analyze readings grouped in thematic axes, such as "cultural studies", "globalization", "postcolonialism" or "Latin American thought". Critically and purposefully synthesize the most representative texts on these issues, drawing on the baggage already accumulated during their studies, so that they can argue with regard to them.
ELECTIVES IN FINE ARTS		

PROBLEMS IN ART EDUCATION	**AP 409**	Analyze the problems facing the professional artist and educator, understanding the basics in education, to design and argue methodologies and educational models. Create plot capabilities and syntactic skills needed to develop as an artist and be able to relate and evaluate academic projects.
LOCAL ART	**AP 200**	Create a sense of aesthetic appreciation of the artistic and cultural events that surround it in their local environment. and recover them within your imagination to construct possible worlds in his work.
CURATORSHIP	**AP 481**	Develop strategies for private or public dissemination of contemporary artistic discourse, designing proposals of technical selection process, display, management and conservation requirements specific artwork. Have the skills needed for optimal field as an artist and professional in culture.
AQUEOUS MEDIA	**AP 355**	Use correct fundamentals and concepts of painting techniques in other techniques related to water, such as watercolor, gouache and acrylic paint. Creating different plastic proposals through the combination of the aqueous media and new possibilities of application in visual easel
WASHI ZOQUEI	**AP 362**	Properly use the traditional process of Japanese origin (Washi Zoquei) of manual paper making, controlling the development of the fibers, paper pulp and how to properly manufacture the equipment and utensils. Apply these processes and knowledge in performing functional works without losing its plasticity and understand the possibility of creating paper supports for use in projects of other subjects such as graphic materials
CERAMICS	**AP 460**	Dominate the constructive principles and techniques of traditional ceramics as pottery activity, the use of the ceramic furnace as burning clay and baking enamels. Also using lathes to create objects or ceramic pottery with designs and innovative solutions within the technical guidelines.

LICENCIATURA IN BIOLOGY

INTRODUCTION TO BIOLOGY	BL 101	Analyze the overall picture of biology, and theoretical and experimental discipline within the working areas of this science. Analyze the aspect of written communication and critical thinking of the subjects taught in the course, to produce reports with own views and based on careful research. Finally consider the role of the biologist as a key element in the solution to various environmental problems.
BIOLOGY FUNDAMENTALS	BL 102	Analyze biology emphasizing modern ideas about the phenomenon of life; its unity, diversity and emergent properties in physicochemical and evolutionary context.
BIOLOGY FUNDAMENTALS LAB	BL 103	Identify and analyze the organization, processes and diversity of living beings. Apply some methods of study of biology.
CHEMISTRY FUNDAMENTALS	QC 101	Handle basic knowledge of chemistry, both phenomenologically as the elements and compounds in chemical reaction, explaining the behavior of matter based on atomic theory and other subsequent theories related to chemical bonds and the molecular geometry.
CHEMISTRY FUNDAMENTALS LAB	QC 105	Use laboratory materials and chemicals. Apply the knowledge gained to calibrate volumetric instruments and prepare solutions of different concentrations. Similarly, establish the performance of a chemical reaction based on the amounts of products produced.
MATH I	MA 147	Understand mathematical tools to describe chemical systems, so that students may represent changes that are characteristic of living systems and the kinetics and thermodynamics of chemical reactions. Learn to graph to represent chemical and biological phenomena to predict their behavior.
SECOND LANGUAGE I	ID	
GENERAL STUDIES I	EG	
PROTIST	BL 115	Protoctists categorizing groups, their phylogenetic relationships, their cell characteristics and life cycle. Diagnose ecological, economic and medical importance of these organisms. Apply basic concepts of biological sciences to these organisms.
PROTIST LAB	BL 165	Identify the main groups of protoctists. Apply the methods of study of the major groups of protoctists apply the methods of studying aquatic ecology.
GENERAL CHEMISTRY	QC 103	Obtain a solid knowledge base on the properties of the material, its chemical characteristics and natural physical recovery of elements and compounds, as well as the treatment of chemical equilibrium and dynamic.

GENERAL CHEMISTRY LAB	**QC 108**	Get the necessary skills to handle the material, to develop the skills required in a chemistry lab. Identifying properties and reactions of elements and compounds that exclude carbon.
MATH II	**MA 148**	properly handle the fundamental concepts of integral calculus. Solve problems involving areas and volumes and represent the behavior of chemical or biological models using differential equations.
THOUGHT AND LANGUAGE	**PC 114**	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE II	**ID**	
ZOOLOGY I	**BL 220**	Describe the defining features of the animals, their phylogenetic relationship with other major groups of organisms, the evolutionary trends of the animals, and their main representatives, both fossil and current.
ZOOLOGY LAB I	**BL 221**	Identify the most important groups of metazoan and morphological characteristics apply techniques for collection. Analyze the behavior of some of these groups.
ORGANIC CHEMISTRY I	**QC 223**	Understand the different functional groups and structures of organic compounds and identify various organic reactions and their mechanisms. Also, properly handle the nomenclature, stereochemistry, structure and reactivity in acid-base processes.
ORGANIC CHEMISTRY LAB I	**QC 225**	Develop the necessary skills and identify the basic material required for any organic chemistry laboratory. Use material separation, purification and identification of organic substances. Apply all safety requirements for work in the laboratory.
PHYSICAL CHEMISTRY I	**QC 231**	Describe and develop the principles of physical chemistry, emphasizing those areas critical to chemical and biological sciences.
PHYSICAL CHEMISTRY LAB I	**QC 236**	Identify common experimental techniques to measure the basic thermodynamic constants and variables. Also, interpret graphs for information on thermodynamic parameters and evaluate the accuracy of their results based on error analysis.
SECOND LANGUAGE III	**ID**	

PROFESSIONAL WRITING	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
BOTANY I	**BL 240**	Understand the evolution of photosynthesizing organisms, analyze their origin from phylogenetic relationships and morphoanatomic main features of Chlorophyta, Bryophyta and Tracheophyta phylumns.
BOTANY LAB I	**BL 241**	Identify phyla Bryophyta, Sphenophyta, Lycophyta and Pteridophyta, based on their macro and microscopic characteristics. Describe the phases of the life cycles of these groups. Apply dichotomous keys for the determination of specimens of these plants to genus.
MYCOLOGY	**BL 211**	Categorize and diagnose cell characteristics, feeding and breeding, groups of organisms studied by the Mycology. Debate the economic and cultural role, importance of these groups.
MYCOLOGY LAB	**BL 212**	Phyla identify Oomycota, Myxomycota, Zygomycota, Ascomycota and Basidiomycota, based on their cellular characteristics and reproductive structures. Apply the techniques of collection, I culture and identification of these groups. Prepare laboratory reports.
BIOCHEMISTRY I	**QC 350**	Describe the structure, the physicochemical characteristics, interactions and function of biomolecules as well as the methodology used for study.
APPLIED STATISTICS	**AE 305**	Effectively use the methods and data description will sign on methods of statistical inference knowledge regarding estimate, hypothesis testing, linear models and experimental design.
BIOPHYSICAL CHEMISTRY	**BL 230**	Understand the thermodynamic equilibrium in treatment processes involving ions and interfaces, which would allow a thorough understanding of biological membranes and macromolecules interactions. Additionally, further the kinetic description of biological reactions.
BIOPHYSICAL CHEMISTRY WORKSHOP	**BL 231**	Illustrate the resolution of problems concerning the area of biofisicoquímica. Use the concepts presented in theory to solve practical problems and to emphasize the interpretation of the concepts of biofisicoquímica.
GENETIC FUNDAMENTALS	**BL 310**	Distinguishing the principles governing the inheritance of characters between generations, as well as the causes of genetic variation of living things.
BOTANY II	**BL 340**	Understand the evolution, phylogenetic relationships and main features of the biology of vascular plants.

BOTANY LAB II	**BL 341**	Gnetophyta identify phyla, Gyngophyta, Coniferophyta, Cycadophyta and Magnoliophyta, based on macroscopic and microscopic characteristics. Analyzing life cycles of these groups. Apply dichotomous keys for the determination of specimens of these plants to family or genus level.
MOLECULAR BIOLOGY	**BL 321**	Demonstrate the relationship between structure and function of nucleic acids, the molecular mechanisms involved in the information flow and control complex information flow in prokaryotes and eukaryotes.
CELL BIOLOGY	**BL 313**	Understand the structure, organization, compartmentalization and cellular complexity needed to support vital phenomena at the level of unicellular organisms and multicellular organisms' integration.
EXPERIMENTAL BIOLOGY	**BL 371**	Handle practical methods of biochemistry, cell biology, molecular biology and genetics and see its application concepts taught in theory to develop experimental models. Understand and reason experimental data obtained in different practices.
BIOCHEMISTRY II	**QC 351**	Apply the knowledge gained in Biochemistry I to study metabolic pathways, their regulation, their interrelationships and organs or tissues in which they occur.
EVOLUTIONARY BIOLOGY	**BL 307**	Understand basic concepts of the process of organic evolution and understand why it is the central paradigm of biological sciences. In addition, acquire so-called evolutionary thinking in solving problems in other areas of biology.
EVOLUTIONARY BIOLOGY PRACTICES	**BL 308**	Apply research techniques in Evolutionary Biology. Modeling the evolutionary process.
GENERAL MICROBIOLOGY	**BL 335**	Understand the basic knowledge in general Microbiology to interpret and analyze phenomena related to the world of microorganisms.
GENERAL MICROBIOLOGY LAB	**BL 385**	Have practical experience to work with microorganisms and acquire the necessary skills in the lab to manipulate, grow, and retain microbiological specimens.
ZOOLOGY II	**BL 320**	Describe diversity, developmental aspects and lifestyle of vertebrates and the evolutionary basis, phylogenetic and functional on which is based the classification of vertebrates.
ZOOLOGY LAB II	**BL 322**	Analyze and distinguish the main morphological characteristics present in all chordates and describe important anatomical terms for the classification of different groups. Describe the relationship between structure and function in different groups of vertebrates.

ECOLOGY I	BL 325	Analyze the hierarchical structure of living systems, recognize the importance of abiotic and biotic components of ecosystems and the interactions between them, centering the analysis of two of these levels of organization: individuals and populations.
ECOLOGY LAB I	BL 375	Analyze and apply a set of ecological, sampling techniques, knowledge and basic tools for field collection and data analysis; in solving different problems in ecological research.
SELECT BIOLOGY TOPICS I	BL 350	Deepen knowledge on a subject of biology from a current viewpoint.
VEGETABLE PHYSIOLOGY	BL 410	Understand the mechanisms that higher plants used to maintain the water balance, the capture light energy and transforming it into nutrients, water absorption and mineral salts and finally the plant response to stress.
VEGETABLE PHYSIOLOGY LAB	BL 412	Apply experimental conditions the knowledge of the mechanisms that higher plants used to maintain the water balance, capturing light energy and transforming it into nutrients, absorption of water and mineral salts and finally the plant response to situations stress.
ANIMAL DEVELOPMENT BIOLOGY	BL 411	Demonstrate the processes involved in embryonic development in animals from fertilization to organogenesis and control mechanisms of the formation of embryonic patterns.
ANIMAL DEVELOPMENT BIOLOGY LAB	BL 413	Describe and analyze the morphology, sexual reproduction and embryonic development in animals. Identify the different structures and processes involved in previous issues, so that an overview of the main stages of early development in vertebrates and invertebrates.
SYSTEMATICS	BL 445	Master the concepts of systematic and general objectives of this science resorting to different methods used to achieve them.
SYSTEMATICS LAB	BL 446	Apply the knowledge acquired in the Systematics course, through its practical use.
SELECT BIOLOGY TOPICS II	BL 450	Delve into a current biology topic.
BIOLOGY RESEARCH SEMINAR	BL 489	Identify the necessary tools for project preparation and presentation in different formats.
GENERAL STUDIES II	EG	
SOCIAL RESPONSIBILITY	RS 498	Reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and

		humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
ANIMAL PHYSIOLOGY	**BL 420**	Understand the concepts of comparative morphology and physiological and chemical mechanisms governing living systems.
ANIMAL PHYSIOLOGY LAB	**BL 422**	Identify and describe, through the experimental monitoring in the laboratory and field, different aspects and applications of animal comparative physiology. Distinguishing the main animal tissues and organs; and explain various physiological processes associated with these structures.
ECOLOGY II	**BL 430**	Analyze from the principles of ecological theory organizational levels natural ecosystems and communities, generate a comprehensive view of nature from the interactions that occur between species and the abiotic environment.
ECOLOGY LAB II	**BL 480**	Describe the interactions between species, methods of sampling natural populations and community relations with their environment; emphasize the discussion and analysis of the results obtained in the laboratory and field.
BIO-GEOGRAPHY	**BL 435**	Differentiate between environmental and historical causes of the distribution of organisms in general and interpret the current distribution of organisms based on the concepts and principles of contemporary biogeography. Also, mention the biogeographic regions and provinces Mexico and explain the origin of its flora and fauna and use the tools of biogeography and related sciences to address conservation problems at regional level.
BIO-GEOGRAPHY LAB	**BL 485**	Apply a set of useful resources in orientation, location, registration and systematization of geographic data, the analysis of the distribution of living beings on Earth. Identify factors that have influenced the distribution of biodiversity in the world and particularly in the Americas.
SELECT BIOLOGY TOPICS III	**BL 460**	Delve into a current biology topic.
GRADUATION PROJECTI	**BL 498**	Demonstrate the ability to integrate theoretical and practical knowledge acquired by the student throughout the degree, to solve a specific problem within the chosen orientation.
SELECT BIOLOGY TOPICS IV	**BL 470**	Delve into a current biology topic.
GRADUATION PROJECTII	**BL 499**	Defender and complete the project started in graduation project I to solvie a specific problem within the chosen orientation.
GENERAL STUDIES III	**EG**	
GENERAL STUDIES IV	**EG**	

GENERAL STUDIES V (CO-CURRICULAR)	EG	

LICENCIATURA IN CLINICAL BIOCHEMISTRY

INTRODUCTION TO CLINICAL BIOCHEMISTRY	BQ 100	Familiarize students with Clinical Biochemistry fundamentals, reflecting on the different topics covered by the profession, addressing historical development issues and the role they will play in the future. Introduce critical thinking as a form of organized and formal thought in scientific work, teamwork, research and oral and written communication according to the professional area.
CHEMISTRY FUNDAMENTALS	QC 101	Handle basic knowledge of chemistry, both phenomenologically as the elements and compounds in chemical reaction, explaining the behavior of matter based on atomic theory and other subsequent theories related to chemical bonds and the molecular geometry.
CHEMISTRY FUNDAMENTALS LAB	QC 105	Use laboratory materials and chemicals. Apply the knowledge gained to calibrate volumetric instruments and prepare solutions of different concentrations. Similarly, establish the performance of a chemical reaction based on the amounts of products produced.
MATH I	MA 147	Understand mathematical tools to describe chemical systems, so that students may represent changes that are characteristic of living systems and the kinetics and thermodynamics of chemical reactions. Learn to graph to represent chemical and biological phenomena to predict their behavior.
GENERAL STUDIES I	EG	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
HISTOLOGY	FA 110	Locate and identify microscopic structures of cells, tissues and organs that form the different systems of the human body.
HISTOLOGY LAB	BQ 301	Locate and identify microscopic structures of cells, tissues and organs that form the different systems of the human body.

ORGANIC CHEMISTRY I	**QC 223**	Understand the different functional groups and structures of organic compounds and identify various organic reactions and their mechanisms. Also, properly handle the nomenclature, stereochemistry, structure and reactivity in acid-base processes.
ORGANIC CHEMISTRY LAB I	**QC 225**	Develop the necessary skills and identify the basic material required for any organic chemistry laboratory. Use material separation, purification and identification of organic substances. Apply all safety requirements for work in the laboratory.
MATH II	**MA 148**	Understand the fundamental concepts of integral calculus. Solve problems involving areas and volumes and represent the behavior of chemical or biological models using differential equations.
GENERAL STUDIES II	**EG**	
PROFESSIONAL WRITING	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	**ID**	
ORGANIC CHEMISTRY II	**QC 224**	Identify the various mechanisms of ionic reaction of organic compounds and the chemistry of the functional groups from a practical point of view.
ORGANIC CHEMISTRY LAB II	**QC 229**	Apply the technique and skills necessary to carry out organic reactions with different functional groups. Identify the different ionic reaction mechanisms experimentation using organic reactions and theoretical knowledge spectroscopy for identification of reactants and products.
PHYSICAL CHEMISTRY I	**QC 231**	Describe and develop the principles of physical chemistry, emphasizing those areas critical to chemical and biological sciences.
PHYSICAL CHEMISTRY LAB I	**QC 236**	Identify common experimental techniques to measure the basic thermodynamic constants and variables. Also, interpret graphs for information on thermodynamic parameters and evaluate the accuracy of their results based on error analysis.
ANALYTICAL CHEMISTRY	**QC 341**	Identify the principles of analytical chemistry, discovering how they are applied in chemistry and related disciplines, as well as in the life sciences and health.

ANALYTICAL CHEMISTRY LAB	QC 345	Develop basic analytical techniques and quantitative analytical chemistry work. Identify the steps in a method of analysis in a systematic and responsible manner, always seeking the accuracy and precision in their work.
BIOCHEMISTRY I	QC 350	Describe the structure, physicochemical characteristics, interactions and function of biomolecules as well as the methodology used for study.
SECOND LANGUAGE III	ID	
CELL BIOLOGY	BL 313	Understand the structure, organization, compartmentalization and cellular complexity needed to support vital phenomena at the level of unicellular organisms and multicellular organisms' integration.
MOLECULAR BIOLOGY	BL 321	Demonstrate the relationship between structure and function of nucleic acids, the molecular mechanisms involved in the information flow and control complex information flow in prokaryotes and eukaryotes.
EXPERIMENTAL BIOLOGY	BL 371	Handle practical methods of biochemistry, cell biology, molecular biology and genetics and see its application concepts taught in theory to develop experimental models. Understand and reason experimental data obtained in different practices.
PHYSICAL CHEMISTRY II	QC 332	Describe and develop the fundamentals of solubility, and behavior of ionic solutions. Analyze the reaction mechanisms and treat equilibria at the interfaces, and the study of colloidal systems emphasizes.
ANALYTICAL INSTRUMENTAL CHEMISTRY	QC 342	Identify the broad field of instrumental analysis techniques, so that you can develop a critical character when judging the accuracy and precision of experimental data.
INSTRUMENTAL ANALYTICAL CHEMISTRY LAB	QC 347	Identify different instrumental analysis methods available according to the characteristics of the test sample.
BIOCHEMISTRY II	QC 351	Apply the knowledge gained in Biochemistry I to study metabolic pathways, their regulation, their interrelationships and organs or tissues in which they occur.
ANATOMY AND PHYSIOLOGY	FA 310	Apply prior knowledge to interpret the physiological processes of the major systems and appliances human body. Interpret normal or pathological conditions of the body and correlate with pharmacological treatment and clinical diagnosis.
PHYSIOLOGY LAB	FA 311	Apply the basic principles of human physiology by teaching experimental level. Develop practical skills by performing and interpreting experimental tests studying the physiological functions of the body.

GENETICS FUNDAMENTALS	BL 310	Distinguishing the principles governing the inheritance of characters between generations, as well as the causes of genetic variation of living things.
CLINICA BIOCHEMISTRY I	BQ 310	Interpret metabolism disorders and discuss the role of laboratory tests as diagnostic aids.
GENERAL MICROBIOLOGY	BL 335	Establish and substantiate the basic knowledge and training in general microbiology to understand, interpret and analyze phenomena related to the world of microorganisms.
GENERAL MICROBIOLOGY LAB	BL 385	Have practical experiences that allow students to work with and understand microorganisms and acquire the necessary skills in the lab to manipulate, grow, and retain microbiological specimens.
GENERAL STUDIES III	EG	
APPLIED STATISTICS	AE 305	Use the methods and data description will sign on methods of statistical inference knowledge regarding estimations, hypothesis testing, linear models and experimental design.
IMMUNOLOGY	FA 380	Describe and analyze the structure and function of molecules and cells involved in immune response in humans.
IMMUNOLOGY LAB	BQ 381	Apply the basic principles of immunology at the experimental level. Develop the practical skills of the student regarding the management of immunological techniques and interpret them in immune diseases.
MEDICAL BACTERIOLOGY	BQ 320	Describe the most important bacterial groups in the field of human health and master the common and current methods for isolation and identification. Relate bacteria with different human pathologies and select the preferred treatment or prevention.
DIAGNOSTIC MEDICAL BACTERIOLOGY LAB	FA 391	Acquire the skill enough to be able to decide with the doctor, the most appropriate type of sample, based on the clinical picture reported. Applying criteria for recovery and identification of pathogens. Interpret the results obtained by integrating knowledge acquired in the subjects of Human Physiology, Biochemistry, Molecular Biology and Immunology.
HEMATOLOGY I	BQ 330	Master the knowledge of the morphology and hematologic physiology as well as basic knowledge of diagnostic hematology methodology.
HEMATOLOGY LAB I	BQ 331	Develop the ability of the morphological recognition of normal blood cell and acquire skills in handling basic laboratory hematologic techniques.
CLINICAL BIOCHEMISTRY II	BQ 340	Identify alterations in metabolism and discuss the role of laboratory tests as diagnostic aids.

CLINICAL BIOCHEMISTRY LAB	BQ 341	Get skill, dexterity and efficiency in the handling and use of analytical techniques and automated tools for qualitative and quantitative determination of metabolites. Interpret experimental results obtained using analytical techniques manual and automated through discussion sessions and inferences as seen in the theoretical part of the course.
GENERAL STUDIES IV	EG	
HEMATOLOGY II	BQ 400	Apply knowledge to analyze pathological alterations in hematology. Interpret the hematological laboratory both diagnosis and monitoring of a patient.
HEMATOLOGY LAB II	BQ 401	Develop the ability of the morphological recognition of normal blood cell and acquire skills in handling basic laboratory hematologic techniques.
MEDICAL MYCOLOGY	BQ 410	Understand the different pathogenic fungi; analyze the role in infectious diseases through their life cycles, morphologies, forms of reproduction and the mechanisms used to cause disease in humans, to contribute to the prevention of fungal infections.
MYCOLOGY LAB	BQ 411	Practice the preparation of culture media and develop common methodologies used in the diagnosis of fungal infections. Identify the most important parasitic fungi that cause disease in humans. Differentiating pathogenic fungi of saprophytic fungi. Acquire the ability to handle pathogenic fungi in the laboratory and learn to consider the necessary precautions in handling these microorganisms.
MEDICAL VIROLOGY	BQ 420	Understand the clinical aspects of the properties of the virus, their pathogenesis and immunity. Relate clinical diagnosis with viral treatment.
VIROLOGY LAB	BQ 421	Acquire the necessary skills to apply clinical laboratory techniques in determining viral diseases.
MEDICAL PARASITOLOGY	BQ 430	Diagnose parasites using different methods common in medical practice, describing their life cycle, morphology, pathology and discuss their way of prevention.
PARASITOLOGY LAB	BQ 431	Identify the most important parasites that cause disease in humans, differentiate pathogenic saprophytes parasites and apply appropriate methodologies for diagnosis of parasitic diseases.

RESEARCH SEMINAR	BQ 440	Search literature on a chosen topic and to critically review such information, determine its relevance, summarize this information and present it in different formats: oral, poster and writing, serving the latter format as the research protocol that will result to the work to be done in courses Thesis I and Thesis II.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
SOCIAL RESPONSIBILITY	RS 498	Reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
CLINICAL TOXICOLOGY	FA 430	Master the conceptual and operational management of the principles of toxicology and the most frequent poisonings in our area. Apply knowledge acquired in different areas under the framework of toxicology.
QUALITY CONTROL	BQ 450	Define and analyze the requirements that testing laboratory (clinical analysis) must meet to demonstrate that they operate a quality system, they are technically competent and are able to generate technically valid results.
MOLECULAR ANALYSIS METHODS	BQ 460	Describe and interpret the techniques used in molecular diagnostics routine and support its use in different applications.
MOLECULAR ANALYSIS METHODS LAB	BQ 461	Practice techniques used in molecular diagnostics.
SELECT TOPICS IN CLINICAL BIOCHEMISTRY I	BQ 470	Develop and analyze Chemical Biological Sciences topics from a current viewpoint.
PROFESSIONAL SEMINAR I	BQ 480	Apply the knowledge gained so far in solving real problems within a research group, hospital or clinical laboratory in the country or abroad.
GRADUATION PROJECT I	BQ 490	Solve a specific problem within the chosen orientation and validate the ability to integrate theoretical and practical knowledge acquired by the student throughout the degree.
FORENSIC MEDICINE	BQ 465	Select the most appropriate methodology to extract and analyze forensic samples.
SELECT TOPICS IN CLINICAL BIOCHEMISTRY II	BQ 475	Develop and analyze Chemical Biological Sciences topics from a current viewpoint.

PROFESSIONAL SEMINAR II	BQ 485	Conclude the work started in BQ 480 developing a research paper.
GRADUATION PROJECT II	BQ 495	Finalize and present the results of the problem chosen to validate the ability to integrate theoretical and practical knowledge acquired by the student.

LICENCIATURA IN POLITICAL SCIENCE

FORMATION OF THE STATE-NATION IN MEXICO	HI 109	Introduce the student to an analysis of the formation of the State and Mexican society that will address him successful subsequent courses of International Relations, emphasizing a critical review of social reality.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	
INTRODUCTION TO POLITICAL SCIENCE	PO 100	The course provides a first approach to the study of political science. Provides the basis of other subjects of the Degree in International Relations.
INTRODUCTION TO INTERNATIONAL RELATIONS	RI 100	Studies the object and subject of international relations and auxiliary sciences for research and analysis. In addition, it introduces the student to the basic research techniques.
SECOND LANGUAGE I	ID	
GENERAL STUDIES II	EG	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
GENERAL STUDIES III	EG	
POLITICAL PHILOSOPHY	RI 114	Through analysis of original sources, the course provides an overview and overview of the development of Western political thought, from the ancient Greeks to Karl Marx.

RESEARCH TECHNIQUES	**RI 111**	A fundamental subject in the career of International Relations, a course that gives students basic training in research, note taking and techniques of reading and writing (including the construction of a critical argument) required for other matters. In addition, students practice their research skills and writing through their introduction to various basic topics to be studied further in more advanced, such courses as: realism, theory of just war, terrorism and counterterrorism (counterterrorism), theories of human nature and the State.
SECOND LANGUAGE II	**ID**	
MEXICAN LEGAL SYSTEM	**RI 141**	Study the general rules of Mexican law. Analyze the fundamentals of the Mexican Constitutional Law. Instruments to study the Mexican public law. Instruments to study the Mexican private law
HISTORY OF INTERNATIONAL RELATIONS	**RI 122**	Present students the historical study of this discipline reviewing the phenomena to be discussed. In addition, students develop critical consciousness and realizes the interrelationship of international relations and make use of auxiliary disciplines to the understand international developments.
MICROECONOMICS I	**EC 106**	Familiarize students with economic modeling techniques through graphical analysis. Develop economic intuition to understand the functioning of markets because of individual decisions of consumers and businesses. Acquaint the student with the implications of different market structures for economic efficiency as well as policies that could potentially correct the distortions. Present to the student a basic formulation of the simultaneous equilibrium in different markets of the economy.

MODERN POLITICAL THINKING	RI 115	Increase and consolidate the student's knowledge of classical theories in the courses of Political Science and International Relations. Increase knowledge of students about the most important thinkers of political philosophy that has influenced the latest political philosophies and practices in existing political institutions. Deepen the knowledge students have of liberalism beyond a superficial level, raise awareness among students of the political importance of cultural particularity of many values that we take for granted and assumed as universal. Show students how to evaluate opposing arguments rigorously and fairly. Initiate, develop and expand the skills of critical thinking, independence of judgment, and writing essays. Introduce students to the difficulties involved in justifying political principles and institutional designs.
SOCIAL STATISTICS	AE 223	Develop parameters to estimate or compare quantitative questions. Identify relevant statistical tests as a decision criteria for the respective parameter of the population. Use basic statistical computer tests and interpret their results. Evaluate sampling and statistical studies of other professionals to debate them or use their results in an optimal way for the development of business interests, public or private.
SECOND LANGUAGE III	ID	
PUBLIC POLICIES	PO 201	Introduce the student to basic knowledge necessary to address and solve situations.
CONTEMPORARY WORLD HISTORY	RI 222	Part of the historical formation of the student of International Relations and Political Science.
MACROECONOMICS I	EC 107	Learn to identify the key issues and macroeconomic phenomena and develop the ability to analyze theoretically (with analytical and graphical techniques) and student empirically (by analyzing basic data) critically.
COMPARED POLITICS I	RI 315	This course will consider the analysis of four models of democratic government. The analysis will cover four aspects of the design of such models: values, scope of the political process, electoral rules and systems of representation. analysis of these four aspects of the design of political institutions will allow students to appreciate the specific strategies that each model proposed to mediate social conflict and carry out government actions. Additionally, the course will include evaluating the performance of these models in different nations of that they gave rise. This will allow the student to distinguish cultural and

		specific socioeconomic requirements that must be satisfied for models function properly.
GEOPOLITICS	**RI 210**	This course provides an overview of geopolitics, since its inception in the late nineteenth century and early twentieth centuries, until its projections into the twenty-first century, when it reappears strongly in the field of international studies.
CONTEMPORARY MEXICAN POLITICS	**RI 252**	This course is a pre-requisite to "Foreign Policy Mexico" (RI-261) and will provide the tools students need to analyze and to understand the processes, actors and institutions of contemporary Mexican politics, specifically since 1982.
CONTEMPORARY POLITICAL IDEAS	**PO 301**	This course helps promote and understand political science through practical ideology based on ideas and knowledge. That is why this course is closely linked to those courses that focus on the practice of political science. Thus, students can delve deeper into the knowledge of political practices and develop a thought or a different perspective.
GLOBAL CITIZENSHIP AND INTERNATIONAL CIVIL SOCIETY	**PO 310**	Understand and analyze national policy in the context of transformations resulting from globalization and the challenges it imposes on government activity and the opportunities offered by the Mexican civil society.
INTERNATIONAL ECONOMIC POLICIES I	**RI 377**	This course is an essential part of the International Relations curriculum as it provides the conceptual elements, theoretical, analytical and policy to understand the workings of the international economy and international economic relations, which in turn constitutes a substantial part of international relations, the main object of the study program.
POLITICAL PARTY SYSTEM	**PO 320**	Analyze the various theoretical proposals on party systems from the earliest approaches to the most contemporary, analyzing the epistemological basis of each proposal, its theoretical implications, how analyze the change of type of system to another and the implications of each system party for the rest of the political system.

COMPARED POLITICS II: POST-COMMUNIST COUNTRIES	**RI 317**	The course is a fundamental part of the program as it will be known through a critical analysis of the origins and the birth of the Commonwealth of Independent States, as well as concerning the European countries of the East, its historical background and development.
SOCIETY AND STATE IN LATIN AMERICA	**RI 224**	The course will consist of two main sections. the Latin American colonial societies and their relations will be discussed with the European metropolis, the independence movements and the establishment of the first national states. In this section incipient industrialization processes are studied (until the thirties) and the corresponding political structures; In other words, the issue of the state "liberal oligarchic" or "oligarchic exporter". The section concludes with an analysis of the insertion of Latin America into the world economy, in that historical period. The second section of the course is a review of the main theories explaining the nature of the dependence of Latin American countries for developed countries. Are studied, in order, Rostaniana theories of development, ECLA of underdevelopment, of the Unit, and equally critical to all of them. The course ends with an analysis of the terms of the controversy and the object of study (Latin America) and its prospects.
POLITICAL BEHAVIOR	**PO 330**	Train political scientists specializing in the areas of electoral and public policy studies, providing fundamental theoretical knowledge and methodological tools for their professional performance.
INDIVIDUAL, COMMUNITY AND STATE	**PO 340**	Continue to develop and expand the professional skills of the student argumentative critical thinking, independent judgment, construction and essay writing. Develop student awareness of the importance of the theoretical and conceptual foundations that will be required to develop his thesis. Introduce students some important ethical issues facing the process of generating policies, legislation and relations between states. Expand the knowledge of the student on how the key concepts learned in previous courses on political thought, can affect the practical problems of national and international politicians. I introduce the student to a deeper intellectual exploration of essential key concepts for the study of international relations and connections and differences between these concepts (e.g. state, detached, community, nation, laws, human rights, public sphere and private). Develop understanding of the complex and crucial relationship between theory and practice in international relations.
FEDERALISM AND LOCAL GOVERNMENTS	**PO 350**	Review the concept of federalism and the history of Mexican federalism to focus on the analysis of the latter in the last twenty-five years (1981-2006) and the new importance in Mexico of local governments.

SOCIAL MOVEMENTS AND CIVIL SOCIETY	PO 360	Students will build theoretical and methodological foundations of political analysis and be able to apply them to understand decisions of national and international political actors influencing national processes and policies. The whole course of political science theory and final object is to develop the professional skills of the student to deepen their knowledge of national politics. Courses should not focus only on knowledge of theories or internal political conditions of states but in the development of competition for political analysis. The key question in assessing the performance of the expanded capacity for political analysis.
COMPARED POLITICS III: NORTH AMERICAN REGION	RI 319	The United States is the greatest power today, and it is important to understand the dynamics of the political process and decision-making to understand how these factors determine the role of the United States on the international agenda, which is essential for international relations today.
QUANTITATIVE RESEARCH METHODS	PO 370	The student will be able to design, process, and objectively interpret quantitative research.
RATIONAL ELECTION	PO 380	Train political scientists specializing in the areas of electoral and public policy studies, providing fundamental theoretical knowledge and methodological tools for their professional performance.
TOPICS IN DEMOCRACY	PO 390	The student acquires knowledge regarding the theory of political science concerned with national policy, including the causes and factors of democracy.
GOVERNMENT AND POLITICAL PROCESSES IN THE US	RI 336	Since the United States is the greatest power today, it is important to understand the dynamics of the political process and decision-making to understand how these factors determine the role of the United States on the international agenda, which is essential for international relations today.
EUROPEAN UNION	RI 411	The course provides an intense description of the chronology and evolution of the European integration process from World War II until today.
POLITICAL MARKETING SEMINAR	PO 400	Train students in the design and implementation of election campaigns.
LOCAL POLITICS SEMINAR	PO 410	Analyze the policy of a federal entity and its municipalities to understand the specificity of regional political processes and their links with national politics and governments and companies in other nations.

SOCIAL RESPONSIBILITY	RS 498	Reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
DESIGN AND EVALUATION OF PUBLIC POLICIES SEMINAR	PO 420	Introduce the student holistically and related basic knowledge necessary to address and resolve situations.
DEMOCRATIC TRANSITION IN MEXICO	PO 430	Analyze changes in Mexican politics over the past two decades from the concept of transition to democracy. This will be based on the review of the theories of electoral democracy and political transition, to then discuss the most important authors who have analyzed the recent changes in Mexican politics. The discussion will focus on three general questions: 1. Have you already given the transition to democracy in Mexico? 2. What concept of democracy talk? 3. What has changed and what needs to change in the current Mexican politics?
GRADUATION PROJECT I	PO 498	Students will develop their research project to meet the diploma requirements.
POLITICAL PRINCIPLES AND PUBLIC POLICIES	PO 440	Students will build theoretical and methodological foundations of political analysis and be able to apply them to understand decisions of national and international political actors influencing processes and policies. All course theory and political science has the aim of developing professional skills to deepen their knowledge of national politics. Courses should focus not only on knowledge of theories or internal political conditions of states but in the development of competition for political analysis. The key question in assessing student performance will not be known thoroughly if given any specific political philosophy or political system but whether it has expanded its capacity for political analysis.
GRADUATION PROJECT II	PO 499	Students will develop their research project to meet the diploma requirements.
GENERAL STUDIES IV	EG	
GENERAL STUDIES V (CO-CURRICULAR)	EG	
ELECTIVE SEMINARS		
RELEVANT ANALYSIS SEMINAR I	PO 480	Train students in analyzing issues relevant to the study of political science.
RELEVANT ANALYSIS SEMINAR II	PO 485	Train students in analyzing issues relevant to the study of political science.

RELEVANT ANALYSIS SEMINAR III	PO 490	Study international political phenomena and processes regionally and in specific times.

LICENCIATURA IN NUTRITION SCIENCE

CHEMISTRY FUNDAMENTALS	QC 101	Handle basic knowledge of chemistry, both phenomenologically as the elements and compounds in chemical reaction, explaining the behavior of matter based on atomic theory and other subsequent theories related to chemical bonds and the molecular geometry.
CHEMISTRY FUNDAMENTALS LAB	QC 105	Use laboratory materials and chemicals. Apply the knowledge gained to calibrate volumetric instruments and prepare solutions of different concentrations. Similarly, establish the performance of a chemical reaction based on the amounts of products produced.
NUTRITION FUNDAMENTALS	CN 101	Identify nutrition as an interdisciplinary science, analyzing its relationship with the three main areas of the curriculum: nutrition, food science and health. Describe and analyze the objectives of the curriculum and professional work field of nutrition.
MATH I	MA 147	Understand mathematical tools to describe chemical systems, so that students may represent changes that are characteristic of living systems and the kinetics and thermodynamics of chemical reactions. Learn to graph to represent chemical and biological phenomena to predict their behavior.
SECOND LANGUAGE I	ID	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	
FOOD MICROBIOLOGY I	IA 230	Describe and compare the structures of eukaryotic and prokaryotic cells. Also, learn to classify microorganisms according to their nutritional requirements and propose methods of isolation, culture, detection and enumeration for different types of microorganisms.

ORGANIC CHEMISTRY I	QC 223	Understand the different functional groups and structures of organic compounds and identify various organic reactions and their mechanisms. Also, properly handle the nomenclature, stereochemistry, structure and reactivity in acid-base processes.
ORGANIC CHEMISTRY LAB I	QC 225	Develop the necessary skills and identify the basic material required for any organic chemistry laboratory. Use material separation, purification and identification of organic substances. Apply all safety requirements for work in the laboratory.
MATH II	MA 148	Understand the fundamental concepts of integral calculus. Solve problems involving areas and volumes and represent the behavior of chemical or biological models using differential equations.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
PHYSICAL CHEMISTRY I	QC 231	Describe and develop the principles of physical chemistry, emphasizing those areas critical to chemical and biological sciences.
PHYSICAL CHEMISTRY LAB I	QC 236	Identify common experimental techniques to measure the basic thermodynamic constants and variables. Also, interpret graphs for information on thermodynamic parameters and evaluate the accuracy of their results based on error analysis.
BIOCHEMISTRY I	QC 350	Describe the structure, the physicochemical characteristics, interactions and function of biomolecules as well as the methodology used.
FOOD MICROBIOLOGY II	IA 324	Identify the role microorganisms play in food spoilage, sanitary quality and public health. Also, use extrinsic and intrinsic food factors for proper conservation.
FOOD MICROBIOLOGY LAB	IA 327	Learn to prepare culture media and apply various techniques to evaluate the microbial content of food samples.
APPLIED STATISTICS	AE 305	Use the methods and data on statistical inference knowledge for estimation, hypothesis testing, linear models and experimental design.

SOCIO-ANTHROPOLOGICAL NUTRITION	CN 210	Identify and analyze human consumption in its spatial, temporal and economic factors in the world social context. Understand social belonging, historical responsibility and mutual and permanent influence of individuals, society, politics, culture, economy and religion. Make a critical and objective analysis of the development of the nutrition of man as an integral being of families, social groups, communities and societies in general, consistent with their environment.
SECOND LANGUAGE III	ID	
ANATOMY AND PHYSIOLOGY	FA 310	Apply prior knowledge to interpret the physiological processes of the major systems and appliances human body. Interpret normal or pathological conditions of the body and correlate with pharmacological treatment and clinical diagnosis.
BIOCHEMISTRY II	QC 351	Apply the knowledge gained in Biochemistry I to study metabolic pathways, their regulation, their relationships and organs or tissues in which they occur.
FOOD CHEMISTRY	IA 332	Learn the fundamentals of the main chemical changes that occur in foodsbenefiting or damaging them and aspects of the functionality of the components and their influence on the nutrition.
FOOD CHEMISTRY LAB	IA 333	Acquire skills in handling chemical and biological material experimentation and interpretat observations and results obtained in the laboratory.
NUTRITION AND DEVELOPMENT I	CN 220	Identify all components of diets, foods that are present, how they are assimilated by the body and its physiological function and metabolic within it.
GENERAL STUDIES II	EG	
SOCIAL PSYCHOLOGY I	PS 304	Understand the basis and background of social psychology, methodology and utility allowing him to identify the factors and processes involved in social thought and the construction of the reality of the individual as well as the processes of interaction and social influence among groups.
SOCIAL AND ORGANIZATIONAL PSYCHOLOGY PRACTICES	PS 444	Manage the knowledge acquired in previous Social, Organizational and Work Psychology courses. Place students in supervised practice in social and organizational areas.
CELLULAR AND MOLECULAR BIOLOGY	CN 310	Understand the relationship between cellular and subcellular organization and vital functions such as gene expression, cell communication and cell division in normal state and under different stress conditions. Deepen the study of proteins.

INTERVIEW THEORY AND TECHNIQUE	**PS 361**	Define, differentiate and recognize the different types of psychological interview and characteristics, and start practicing them.
GENERAL PHARMACOLOGY	**FA 320**	Understand pharmacological knowledge about the general principles of drug action and integration of the knowledge obtained in Pharmaceutical Biochemistry and Organic Chemistry II.
GENERAL PHARMACOLOGY LAB	**FA 321**	Apply the basic principles of pharmacology through experiments. Develop the practical skills of the student in terms of handling experimental animals and dose calculation.
NUTRITION AND DEVELOPMENT II	**CN 320**	Analyze and understand the principles of physiological regulation relating to food; genetic, physiological and metabolic consequences of food interactions with the human body; energy and human nutritional needs for growth and development, and under weight control and exercise; and the methodology used in diet therapy.
DIETARY CALCULATION WORKSHOP	**CN 325**	Analyze and manage sources of information on the chemical composition of raw materials and processed foods, and with this information be able to determine which foods may satisfy the nutritional requirements of different groups of both healthy and ill people, considering socioanthropological aspects.
EXPERIMENTAL BIOLOGY	**BL 371**	Use practical biochemistry, cell biology, molecular biology and genetics methods and see its application concepts taught in theory to develop experimental models. Understand and reason experimental data obtained in different practices.
GENERAL STUDIES III	**EG**	
FOOD ELABORATION WORKSHOP I	**CN 330**	Handle and apply the basic methods of measurements, types of equipment, standards of health, hygiene techniques, and cooking techniques essential for proper food handling.
PHYSIOPATHOLOGIES	**FA 340**	Interpret the basic mechanisms of disease processes shared by different illnesses and specific mechanisms involved in their production and clinical manifestations.
NUTRITIONAL GENETICS	**CN 340**	Identify human diseases relating to inheritance, and the influence that the environment has on the expression of genes involved.
SANITARY LEGISLATION	**FA 480**	Identify the constitutional basis of the protection of life, integrity, health, to the environment and to the exercise the profession providing the pharmacist the knowledge of their rights and duties not only professionals but also to perform their job.

FOOD ANALYSIS	**IA 436**	Understand the main methods used to quantify food components such that, from the understanding of their fundamentals, students choose the one which is best suited to make some determination in each situation; make changes without affecting the accuracy of the results; and manage data and results obtained.
FOOD ANALYSIS LAB	**IA 438**	Apply different methods for quantifying food components such that, from the understanding of their fundamentals, the student will: analyze and discuss the results, evaluate the methods used to recommend the method most suitable as the sample and the purpose of analysis, and draw conclusions regarding the characteristics of the methods.
NUTRITIONAL DIAGNOSIS	**CN 350**	Evaluate the initial stages of the study of the nutritional status of a person. Know and apply the methods available to establish the nutritional status of people using anthropometric studies, clinical evaluation and clinical analysis.
NUTRITIONAL DIAGNOSIS WORKSHOP	**CN 355**	Identify the initial stages of the study of the nutritional status of a person and relate the methods available to establish the nutritional status of people: Anthropometric, clinical evaluation and laboratory studies.
FOOD PROCESSING II	**IA 442**	Identify national and international laws regulating the food industry and the principles on which food preservation is based on the addition of additives; Also identify principles irradiation, disinfection (sanitation), water supply and waste disposal.
PUBLIC HEALTH AND EPIDEMIOLOGY	**FA 440**	Identify, characterize and assess public health problems in a multidisciplinary context.
FOOD TOXICOLOGY	**CN 360**	Identify the nature, sources and formation of toxic substances in food, its effects and the safety limits of these toxic substances.
CLINICAL NUTRITION	**CN 370**	Understand the interpretation of the nutritional diagnosis and treatment known routes start nutritional therapy. Know the proper application of nutritional therapies in cases of: malnutrition and obesity; pregnancy, lactation and children; anorexia nervosa and bulimia; overfeeding; food intolerances and allergies; gastrointestinal disorders, liver, pancreatic, renal, bone, lung, cardiovascular, blood, immune system problems, infections; cancer; insulin resistance; water-electrolyte balance; cases of trauma and surgery, and in cases of other diseases.

CLINICAL NUTRITION WORKSHOP	**CN 375**	Interpret the results of nutritional diagnoses and explore the best ways of treatment or nutritional therapy from the study and discussion of real and hypothetical cases in medical centers, health centers and clinics.
FOOD ELABORATION WORKSHOP II	**CN 335**	Develop skills to apply theoretical knowledge acquired in previous courses on nutritional and energy calculations diets menus to solve specific nutritional problems.
COMMUNITY NUTRITION	**CN 420**	Apply skills learned throughout their studies in the identification and study of problems related to community nutrition and identify the main problems of social nutrition in Mexico and its region.
COMMUNITY NUTRITION WORKSHOP	**CN 425**	Apply skills learned throughout their studies in the identification and study of problems related to community nutrition. Identify the main problems of social nutrition in Mexico and its region.
SOCIAL RESPONSIBILITY	**RS 498**	Reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way
GENERAL STUDIES IV	**EG**	
PROFESSIONAL SEMINAR I	**CN 480**	Apply the knowledge gained so far in solving real problems through practical professional experience within a research group, industry, hospital or community in Mexico or abroad.
GRADUATION PROJECT I	**CN 490**	Demonstrate the ability to integrate theoretical and practical knowledge acquired by the student, to solve a specific problem of research, data collection or generation of new knowledge within the chosen orientation.
GENERAL STUDIES V (CO-CURRICULAR)	**EG**	
PROFESSIONAL SEMINAR II	**CN 481**	Follow up on the problem to solve and demonstrate the application of knowledge acquired to date within a research group, industry, hospital or community of the country or abroad, through a practice or stay professional, ending with the writing of a report.
GRADUATION PROJECT II	**CN 491**	Defend their work and to validate the ability to integrate theoretical and practical knowledge acquired by the student, to solve a specific problem within the chosen orientation, continuing the work begun in the Graduation project I

ELECTIVES		
SELECT NUTRITION TOPICS I	CN 430	Analyze and master knowledge on a subject of Nutritional Sciences from a current viewpoint.
SELECT NUTRITION TOPICS II	CN 440	Analyze and master knowledge on a subject of Nutritional Sciences from a current viewpoint.
SELECT NUTRITION TOPICS III	CN 450	Analyze and master knowledge on a subject of Nutritional Sciences from a current viewpoint.
IMMUNOLOGY	FA 380	Describe and analyze the structure and function of molecules and cells involved in man's immune response.
CLINICAL PHARMACOLOGY	FA 342	Apply the general principles of pharmacology to choose and use drugs according to the system on the body acting predominantly as its main therapeutic indications, drug interactions, side effects and contraindications. Special emphasis is given to action mechanisms through which the drugs modify pathological processes as well as the undesirable effects.
HOSPITAL AND CLINICAL PHARMACY	FA 420	Apply the fundamentals of clinical pharmacology and therapeutics in activities related to the preparation, distribution and administration of medicines in hospitals and in monitoring pharmacotherapy of patients getting clear link between the drug and its environment the patient; also implement hospital pharmaceutical services that allow the safe and proper use of drugs in patients or in collaboration with other professionals responsible for health care.
ALTERNATIVE MEDICINE	FA 466	Teach an overview about this area of pharmaceutical sciences with a special focus on the use and study of alternative medicine.
CLINICAL BIOCHEMISTRY I	BQ 310	Interpret metabolism disorders and discuss the role of laboratory tests as diagnostic aids.

LICENCIATURA IN PHARMACEUTICAL SCIENCE

INTRODUCTION TO PHARMACEUTICAL SCIENCE	FA 100	Analyze the meaning of pharmaceutical sciences as a profession in the health area. Analyze the different topics of the discipline, with emphasis on historical antecedents, the current performance of this profession and the roles they will eventually play in the future. Apply critical thinking, pharmaceutical

		ethics, teamwork, research, and writing scientific papers.
CHEMISTRY FUNDAMENTALS	**QC 101**	Handle basic knowledge of chemistry, both phenomenologically as the elements and compounds in chemical reaction, explaining the behavior of matter based on atomic theory and other subsequent theories related to chemical bonds and the molecular geometry.
CHEMISTRY FUNDAMENTALS LAB	**QC 105**	Use laboratory materials and chemicals. Apply the knowledge gained to calibrate volumetric instruments and prepare solutions of different concentrations. Similarly, establish the performance of a chemical reaction based on the amounts of products produced.
MATH I	**MA 147**	Understand mathematical tools to describe chemical systems, so that students may represent changes that are characteristic of living systems and the kinetics and thermodynamics of chemical reactions. Learn to graph to represent chemical and biological phenomena to predict their behavior.
GENERAL STUDIES I	**EG**	
THOUGHT AND LANGUAGE	**PC 114**	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	**ID**	
HISTOLOGY	**FA 110**	Locate and identify microscopic structures of cells, tissues and organs that form the different systems of the human body.
ORGANIC CHEMISTRY I	**QC 223**	Understand the different functional groups and structures of organic compounds and identify various organic reactions and their mechanisms. Also, properly handle the nomenclature, stereochemistry, structure and reactivity in acid-base processes.

ORGANIC CHEMISTRY LAB I	QC 225	Develop the necessary skills and identify the basic material required for any organic chemistry laboratory. Use material separation, purification and identification of organic substances. Apply all safety requirements for work in the laboratory.
MATH II	MA 148	Understand the fundamental concepts of integral calculus. Solve problems involving areas and volumes and represent the behavior of chemical or biological models using differential equations
GENERAL STUDIES II	EG	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
ORGANIC CHEMISTRY II	QC 224	Identify the various mechanisms of ionic reaction of organic compounds and the chemistry of the functional groups from a practical point of view.
ORGANIC CHEMISTRY LAB II	QC 229	Apply the technique and skills necessary to carry out organic reactions with different functional groups. Identify the different ionic reaction mechanisms experimentation using organic reactions and theoretical knowledge spectroscopy for identification of reactants and products.
PHYSICAL CHEMISTRY I	QC 231	Describe and develop the principles of physical chemistry, emphasizing those areas critical to chemical and biological sciences.
PHYSICAL CHEMISTRY LAB I	QC 236	Identify common experimental techniques to measure the basic thermodynamic constants and variables. Also, interpret graphs for information on thermodynamic parameters and evaluate the accuracy of their results based on error analysis.
ANALYTICAL CHEMISTRY	QC 341	Identify the principles of analytical chemistry, discovering how they are applied in chemistry and related disciplines, as well as in the life sciences and health.
ANALYTICAL CHEMISTRY LAB	QC 345	Develop basic analytical techniques and quantitative analytical chemistry work. Identify the steps in a method of analysis in a systematic and responsible manner, always seeking the accuracy and precision in their work.
BIOCHEMISTRY I	QC 350	Describe the structure, the physicochemical characteristics, interactions and function of biomolecules as well as the methodology used for study.
SECOND LANGUAGE III	ID	

CELL BIOLOGY	**BL 313**	Identify the structure, organization, compartmentalization and cellular complexity needed to support vital phenomena at the level of unicellular organisms and multicellular organisms.
MOLECULAR BIOLOGY	**BL 321**	Demonstrate the relationship between structure and function of nucleic acids, the molecular mechanisms involved in the information flow and control complex information flow in prokaryotes and eukaryotes.
EXPERIMENTAL BIOLOGY	**BL 371**	Handle practical methods of biochemistry, cell biology, molecular biology and genetics and see its application concepts taught in theory to develop experimental models. Distinguish and analyze the experimental data obtained in different practices.
PHYSICAL CHEMISTRY II	**QC 332**	Describe and apply the fundamentals of solubility, and behavior of ionic solutions. Analyze the reaction mechanisms and treat equilibria at the interfaces, and the study of colloidal systems emphasizes.
ANALYTICAL INSTRUMENTAL CHEMISTRY	**QC 342**	Identify the broad field of instrumental analysis techniques, so that you can develop a critical character when judging the accuracy and precision of experimental data.
ANALYTICAL INSTRUMENTAL CHEMISTRY LAB	**QC 347**	Identify various instrumental analysis methods available according to the test sample.
BIOCHEMISTRY II	**QC 351**	Apply the knowledge gained in Biochemistry I to analyze the metabolic pathways, their regulation, their interrelationships and organs or tissues in which they occur.
ANATOMY AND PHYSIOLOGY	**FA 310**	Apply prior knowledge to interpret the physiological processes of the major systems of the human body. Interpret normal or pathological conditions and correlate with pharmacological treatment and clinical diagnosis.
PHYSIOLOGY LAB	**FA 311**	Apply the basic principles of human physiology through experiments. Practice by conducting and interpreting experimental tests studying the physiological functions of the body.
GENERAL PHARMACOLOGY	**FA 320**	Build pharmacological knowledge on the general principles of drug action and integration of the knowledge obtained in Pharmaceutical Biochemistry and Organic Chemistry II.
GENERAL PHARMACOLOGY LAB	**FA 321**	Apply the basic principles of pharmacology through experiments. Apply practical skills regarding the management of experimental animals and dose calculation.

PHARMACOGNOSY	FA 330	Describe the factors involved in the cultivation of medicinal plants as well as those factors that alter the content of medicinal agents in plants. Outline the properties of the compounds from the primary metabolism of plants. Outline the properties of the compounds from the secondary metabolism of plants. Identify test methods and evaluation of compounds from the primary and secondary metabolism of plants.
PHARMACOGNOSY LAB	FA 331	Apply the experiments in which the most common methods are illustrated to obtain and identify natural plant products.
GENERAL MICROBIOLOGY	BL 335	Establish and substantiate the basic knowledge and training in general microbiology to distinguish, interpret and analyze phenomena related to the world of microorganisms.
GENERAL MICROBIOLOGY LAB	BL 385	Analyze microorganisms and acquire the necessary skills in the lab to manipulate, grow, and retain microbiological specimens.
GENERAL STUDIES III	EG	
PHYSIOPATHOLOGY	FA 340	Interpret the basic mechanisms of disease processes shared by different diseases and specific mechanisms involved in the production and clinical manifestations of these diseases.
PHARMATECHNOLOGY	FA 341	Understand the conceptual and operational use the various unit operations involved in the manufacture of solid dosage forms. Choose the best computer programsto make a solid dosage form. Master the conceptual and operational management of the different ingredients used in the manufacture of solid dosage forms to choose the most appropriate for a given formulation. Master the conceptual and operational management of the different physical, chemical and physiochemical used in quality control of solid pharmaceutical forms.
CLINICAL PHARMACOLOGY	FA 342	Apply the general principles of pharmacology at the current therapeutic assessing the choice and use of drugs according to the system on the body acting predominantly as its main therapeutic indications, drug interactions, side effects and contraindications. Special emphasis is given to action mechanisms through which the drugs modify pathological processes as well as the undesirable effects.

CLINICAL PHARMAKINETICS	**FA 370**	Establish the relationship between the physicochemical characteristics of the drug, the dosage and its interaction with the body, calculating the most important pharmacokinetic parameters for a patient and a particular drug so that they this knowledge is used in individualization of pharmacotherapies for each patient, predicting changes in the most relevant pharmacokinetic parameters in patients with certain disease conditions or treated with specific drugs groups.
IMMUNOLOGY	**FA 380**	Describe and analyze the structure and function of molecules and cells involved in immune response in humans.
MEDICAL DIAGNOSTIC MICROBIOLOGY	**FA 390**	Apply appropriate technology to recover and identify micro-organisms (bacteria, viruses and fungi) of clinical interest and list the type of infection.
MEDICAL DIAGNOSTIC MICROBIOLOGY LAB	**FA 391**	Acquire the skill to be able to decide with the doctor, the most appropriate type of sample, based on the clinical picture reported. Apply criteria for recovery and identification of pathogens. Interpret the results obtained by integrating knowledge acquired in the subjects of Human Physiology, Biochemistry, Molecular Biology and Immunology.
DERMATOLOGICAL AND COSMETIC PHARMACY	**FA 400**	Relate the structure and physiology of some human tissues with the function of the raw materials of a cosmetic product. Apply the knowledge acquired in courses Farmacotecnia in the preparation of cosmetic products.
DERMATOLOGICAL AND COSMETIC PHARMACY LAB	**FA 401**	Formulate cosmetic preparations that are representative of each type of product.
PHARMATECHNOLOGY LAB	**FA 405**	Determine critical points in the manufacturing processes and evaluation of solid dosage forms, liquid and semisolid.
PHARMACOTHERAPY	**FA 410**	Analyze the drug therapy of the patient through an overview of the drug to its proper use in the context of healthcare. Analyze the fundamentals of pharmacotherapy and apply that knowledge and concepts described in other subjects, for the analysis of clinical cases from the literature on specific pathologies.

HOSPITAL AND CLINIC PHARMACY	FA 420	Apply the fundamentals of clinical pharmacology and therapeutics in activities related to the preparation, distribution and administration of medicines in hospitals and in monitoring pharmacotherapy of patients getting the student clearly relates the drug and their environment with the patient. In addition, provide the necessary tools to implement hospital pharmaceutical services that allow the safe and proper use of drugs in patients or in collaboration with other professionals responsible for health care.
CLINICAL TOXICOLOGY	FA 430	Manage conceptual and operational principles of toxicology and the most frequent poisonings in the area. Apply knowledge acquired in different areas under the framework of toxicology.
PHARMACOLOGY AND TOXICOLOGY LAB	FA 431	Manage conceptual and operational principles of pharmacology and toxicology through experiments. Develop the practical skills of the student as to the proper handling of experimental animals and dose calculation LD50.
APPLIED STATISTICS	AE 305	Implement the methods and data description will sign on methods of statistical inference knowledge regarding estimation, hypothesis testing, linear models and experimental design.
GENERAL STUDIES IV	EG	
SOCIAL RESPONSIBILITY	RS 498	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
PUBLIC HEALTH AND EPIDEMIOLOGY	FA 440	Identify, characterize and assess public health problems in a multidisciplinary context.
PHARMACEUTICAL BIOTECHNOLOGY	FA 450	Manage conceptual and operational issues on the latest molecular biotechnology of recombinant proteins used as drugs.
COMMUNITY PHARMACY	FA 460	Identify the general concept of pharmaceutical care, the methodology for conducting this activity at Community level and issues relevant to representative cases of outpatient therapy. Identify the organizational and legal aspects relating to the administration of a private pharmacy and social aspects related to pharmaceutical care in rural communities.

COMMUNITY PHARMACY LAB	FA 461	Identify the importance of a proper search, evaluation, communication and documentation of drug information and gain experience in detecting and solving problems related to drugs, to provide pharmaceutical care in community pharmacy.
RESEARCH SEMINAR	FA 470	Perform literature searches on a chosen topic and critically review the information, determining its relevance, summarizing it and presenting it in different formats: oral, poster and writing, The latter format will be the research protocol for the work in courses Final Project I and II.
SANITARY LEGISLATION	DE 252	Identify the constitutional basis of the protection of life, integrity, health, environment and exercise their profession for pharmacists, who must know their rights and duties not only as professionals but also ethical concerns.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
PROFESSIONAL SEMINAR I	FA 490	Apply the knowledge gained so far in solving real problems within a research group, industry, hospital or community pharmacy in the country or abroad.
GRADUATION PROJECT I	FA 496	Solve a problem within the chosen area and validate the ability to integrate theoretical and practical knowledge acquired by the student throughout their studies.
PROFESSIONAL SEMINAR II	FA 491	Conclude and defend the work begun with FA 490.
GRADUATION PROJECT II	FA 497	Finalize and present the results of the problem chosen to validate the ability to integrate theoretical and practical knowledge acquired by the student.
ELECTIVES		
INORGANIC CHEMISTRY I	QC 202	Analyze the implications of energy in the formation of chemical bonds, both atoms and molecules, as well as the forces supporting the molecular structure (highlights the various definitions of acids and bases and their relationship to the study of solution chemistry). Handle chemistry of transition metals and their general properties of compounds.

BIO-ORGANICS	**QC 320**	Understand different reactions with carbon nucleophiles and reactions and methods of obtaining aryl halides and organometallic compounds and describe a mechanism different enolates. Also, solve problems related to the role in the chemistry.
SYNTHETIC ORGANIC CHEMISTRY	**QC 421**	Understand the raw materials required for the synthesis of an organic molecule complex using the Retrosynthesis method. Identify and implement the most suitable for the preparation of an organic compound from raw materials selected techniques. Distinguish and implement different strategies of organic synthesis. Synthesize various organic substances.
APPLIED SPECTROSCOPY	**QC 481**	Describe the theoretical foundations of structural analysis methods. Analyze the most suitable for the structural analysis of a sample techniques. Describe and identify information that can give each of the various spectroscopic methods and solve problems.
GENETICS FUNDAMENTALS	**BL 310**	Distinguish the principles governing the inheritance of characters between generations, as well as the causes of genetic variation of living things.
SELECT TOPICS IN BIOLOGY I	**BL 350**	Manage and integrate knowledge on a biology topic.
VEGETABLE PHYSIOLOGY	**BL 410**	Summarize knowledge of the mechanisms that plants use to maintain superior water balance, capturing light energy and transforming it into nutrients, water absorption and mineral salts.
SELECT TOPICS IN BIOLOGY II	**BL 450**	Deepen knowledge on a biology topic from a current viewpoint.
MEDICAL CHEMISTRY	**FA 464**	Describe the conceptual and operational medicinal chemistry with special reference in its action at the molecular, metabolic level, the structure-activity, pharmacokinetics and modification of molecular models to improve this. Analyze different families of drugs grouped according to their mechanism of action.

PHARMACOECONOMICS	FA 486	Build an overview of the various economic aspects related to the world of drugs through the knowledge and interpretation of economic evaluation methods applied to drugs, and the application of the principles and methods of pharmacoeconomics to making decisions in different scenarios: administration hospital environment, outpatient setting, pharmaceutical industry and user.
ALTERNATIVE MEDICINE	FA 466	Build an overview about this area of pharmaceutical sciences with a special focus on the use and study of alternative medicine.
MEDICINAL PLANTS	FA 467	Understand the medicinal use of plants emphasizing medicinal interest, pharmacological, plant pathology, agricultural, food science and industry, among others, so that as a pharmacist can also support the rational use of herbal remedies in the community and to develop new products.
PHARMACOEPIDEMIOLOGY	FA 468	Study the two areas of study of Pharmacoepidemiology: drug use and pharmacovigilance, so that the student will apply this knowledge in the design, implementation and evaluation of programs evaluating the use of drugs and pharmacovigilance programs, to use in hospital pharmacy, community pharmacy, industry and national health systems.
ADVANCED MICROBIOLOGY	FA 483	Integrate knowledge of medical microbiology with immune response and the importance of the genetic background of the host, explaining the success of infectious diseases in different population groups and proposing new treatment and prevention strategies.
SELECT TOPICS IN PHARMACY I	FA 492	Increase their knowledge on pharmaceutical sciences from a current viewpoint.
SELECT TOPICS IN PHARMACY II	FA 493	Increase their knowledge on pharmaceutical sciences from a current viewpoint.
CLINICAL BIOCHEMISTRY I	BQ 310	Interpret metabolism disorders and discuss the role of laboratory tests as diagnostic aids.
MEDICAL BACTERIOLOGY	BQ 320	Describe the most important bacterial groups in the field of human health and master the common and current methods for isolation and identification. Relate bacteria with different human pathologies and select the preferred treatment or prevention.

HEMATOLOGY I	BQ 330	Apply knowledge of hematology morphology and physiology as well as basic knowledge of diagnosis.
HEMATOLOGY II	BQ 400	Apply knowledge to analyze pathological alterations in hematology. Interpret the hematological laboratory both diagnosis and monitoring of a patient.
MEDICAL MYCOLOGY	BQ 410	Manage knowledge of different pathogenic fungi; study the role in infectious diseases through their life cycles, morphologies, forms of reproduction and the mechanisms used to cause disease in humans, to contribute to the prevention of fungal infections.
MEDICAL VIROLOGY	BQ 420	Understand the clinical aspects of the properties of a virus, its pathogenesis and immunity and aspects about the clinical diagnosis and treatment viral.
MEDICAL PARASITOLOGY	BQ 430	Diagnose different parasites common in medical practice, describing their life cycle, morphology, pathology and how to prevent them.
QUALITY CONTROL	BQ 450	Define and analyze the requirements that testing laboratory (clinical analysis) must meet to demonstrate that they operate a quality system, are technically competent and are able to generate technically valid results.
MOLECULAR ANALYSIS METHODS	BQ 460	Describe and interpret the techniques used in molecular diagnostics routine and support its use in different applications.
FORENSIC MEDICINE	BQ 465	Select the most appropriate methodology for the extraction and analysis of forensic samples.
FOOD CHEMISTRY	IA 332	Understand the fundamentals of the main chemical changes that occur in foods or benefiting or harming them and aspects of the functionality of the components and their influence on nutrients.
NUTRITION	IA 334	Recognize the importance of food as suppliers of nutrients required for proper functioning of the human body

LICENCIATURA IN COMMUNICATION

THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	

INTRODUCTION TO COMMUNICATION	CO 113	Understand the areas of the profession, introducing studentsto the diversity of topics.
ORAL EXPRESSION WORKSHOP	CO 114	Master the ability to communicate orally. Develop the practice of argumentation through presentations and discussions.
COMMUNICATION STUDIES	CO 115	Debate how the process of communication is a social and cultural phenomenon that has been studied from different perspectives and disciplines. Recognize the different problems that philosophy, sociology, anthropology and psychology have identified linked to the phenomenon of human communication.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
GENERAL STUDIES II	EG	
SECOND LANGUAGE I	ID	
MEXICAN ART IN THE SECOND HALF OF THE 20TH CENTURY	HA 417	Understand and define the main characteristics of Mexican art of the second half of the twentieth century, proposals which are inscribed in dominant fashion, at first, in a radical opposition to the plastic values and iconographic promoted by the nationalist school, particularly in sculpture, painting, printmaking and new genres.
INTRODUCTION TO JOURNALISM	CO 122	Master the theoretical foundations of the journalistic work and the essential elements that make it up. Identify the origin and history of world journalism and specifically in Mexico.
STATIC IMAGE WORKSHOP	CO 123	Master the static image. Apply digital technologies, absorbing how they affect the quality of still images.
SECOND LANGUAGE II	ID	
GENERAL STUDIES III	EG	
JOURNALISM PRODUCTION	CO 231	Master journalistic genres and put it into practice by writing according to professional standards.
THEORETICAL COMMUNICATION SCHOOLS	CO 215	Recognize the main features of the theoretical schools of communication. Know the authors, theories and major empirical studies developed by each school.
INFORMATION AND SOCIETY	CO 263	Diagnose the information disclosed by mass media to interpret the stereotypes of different social models presented.

BUSINESS FUNDAMENTALS	**BA111**	Analyze administrative theory, define its strengths and weaknesses and study some theoretical alternatives that can solve such deficiencies.
SECOND LANGUAGE III	**ID**	
GENERAL STUDIES IV	**EG**	
COMMUNICATION METHODOLOGY PERSPECTIVES	**CO 214**	Conceptually and operationally dominate the primary functions associated with any process of quantitative communication research: sampling plans, operationalization of variables, data processing and data interpretation.
CONTEMPORARY MEXICAN POLITICS	**RI 252**	Analyze the processes, actors and institutions in contemporary Mexican politics to identify their influence on contemporary f Mexican foreign policy. Establish a degree of convergence with global processes of democratization.
LANGUAGE OF MOVING IMAGES I	**CO 264**	Use different forms of language of the moving image, to represent icons through interpretation, and concrete expression ideas.
LANGUAGE OF SOUND	**CO 243**	Control the operation of audio equipment and the use of language resources in sound.
GENERAL STUDIES V (CO-CURRICULAR)	**EG**	
SOCIAL STATISTICS	**AE223**	Develop parameters to estimate or compare quantitative questions. Identify relevant statistical tests as a decision criteria for the respective parameter of the population. Use basic statistical computer tests and interpret their results. Evaluate sampling and statistical studies of other professionals to debate them or use their results in an optimal way for the development of business interests, public or private.
EDUCATION FOR CRITICAL MEDIA RECEPTION	**ED 418**	Analyze the information received from the media (with emphasis on TV), and design strategies to promote these skills in other population groups and areas .
ETHICS AND COMMUNICATION	**CO 382**	Discuss and analyze the most frequent ethical problems that the social communicator faces in the exercise of their profession, based on general knowledge of the main philosophical problems of contemporary society.
SCRIPTWRITING	**CO 352**	Master the techniques to make and develop scripts for film, video and television in various genres and formats.

ORGANIZATIONAL COMMUNICATION	CO 341	Design, demonstrate and master the processes, features and variables that make up the communication in organizations.
AUDIOVISUAL PRODUCTION AND JOURNALISM		
MEXICAN LITERATURE	LI 260	Analyze the most representative works of Mexican authors of the nineteenth century through a direct approach to their texts. Contextualize the works concerning the most representative cultural events (painting, cinema, philosophy, etc.). Develop well supported critical judgments of Mexican literature.
NEWSPAPER WRITING AND STYLE	CO 312	Master the elements of journalistic genres and put them to practice writing them according to professional standards.
RADIO PRODUCTION TECHNIQUES I	CO 344	Develop basic skills to write radio scripts for programs.
RADIO PRODUCTION TECHNIQUES I	CO 345	Develop basic techniques for proper operation of the audio equipment.
TV/VIDEO PRODUCTION TECHNIQUES	CO 353	Use audiovisual techniques to express ideas through video.
TV /VIDEO LAB	CO 357	Operate image and sound editing and production equipment.
LANGUAGE OF MOVING IMAGES II	CO 364	Analyze and use the visual language in audiovisual productions.
ADVANCED SCRIPTWRITING	CO 402	Master advanced scriptwriting structures techniques in film, video and T.V. Develop scripts for different media.
PRE-PRODUCTION	CO 403	Develop ability, skill, practice and knowledge to produce an audiovisual.
RADIO PRODUCTION TECHNIQUES II	CO 492	Apply planning and professional production methods to develop complex radio programs.
RADIO PRODUCTION TECHNIQUES LAB II	CO 493	Apply planning and professional production methods to develop complex radio programs.
INFORMATION MEDIA	CO 417	Use the techniques and literary styles in the writing of journalistic and informational pieces for design notes, interviews and articles.
JOURNALISTIC ETHICS	CO 418	Analyze the ethical issues that the journalist faces in the exercise of their profession.

SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
AUDIOVISUAL PROJECT	CO 404	Carry out an audiovisual project.
AUDIOVISUAL PROJECT LAB	CO 405	Practice with audiovisual production instruments with the technical team.
PHOTOJOURNALISM WORKSHOP	CO 412	Produce high quality photographs for publication in newspapers and magazines. Recognize the theoretical bases of the photojournalistic work.
INVESTIGATIVE JOURNALISM	CO 419	Write notes and reports, properly using investigative journalism techniques and strategies.
TYPES OF OPINION	CO 429	Master the techniques and style used in writing opinion pieces. Write articles, editorials, columns and an interpretive report.
GRADUATION PROJECT I	CO 496	Propose an integrated project that puts into practice the knowledge acquired throughout their studies.
POSTPRODUCTION	CO 406	Master the techniques and tools related to video postproduction.
POSTPRODUCTION LAB	CO 407	Master the techniques and tools related to video postproduction.
DISTRIBUTION AND EXHIBITION WORKSHOP	CO 408	Develop knowledge and skills in the logistics operation management of distribution and exhibition of audiovisual.
JOURNALISTIC PRODUCTION	CO 433	Master the elements of professional journalism and exercise a responsible position in La Catarina, the university newspaper.
PROFESSIONAL SEMINAR	CO 494	Apply and develop skills and knowledge within public or private sector under the supervision of an employer to assess their performance in the practice of your seminar.
GRADUATION PROJECT II	CO 497	Develop and finalize a project with the notable aspects of research initiated during Graduation Project I.
ELECTIVES IN AUDIOVISUAL AND JOURNALISM		
MEXICAN LEGAL SYSTEM	RI 141	Understand the general rules of Mexican law to analyze its constitutional foundations and use its instruments.
MEXICAN SOCIAL PROBLEMS	SO 180	Analyze the bases and dimensions of the various types of social problems facing Mexico and master the essential theoretical frameworks on poverty and social inequality; analyze the causes of violence and conflict, both political and domestic, as well as strategies and political actions used to address different types of problems.

ACTING TECHNIQUES I	TE 112	Plan and execute cohesion, commitment to action and interaction games. Develop creative and expressive capacities.
SOCIETY AND STATE IN LATIN AMERICA	RI 224	Review the historical processes that affected the Latin American colonial societies and master the main theories of the nature of dependence of Latin American countries on developed countries.
CONTEMPORARY LATIN AMERICA	RI 311	Identify incipient industrialization processes, failure and corresponding political structures. Study the Latin American colonial societies and their relations with Europe, the integration of indigenous elements and Hispanics in Latin American societies, the independence movements and the creation of national states.
THEATER DIRECTION I	TE 431	Master the components and theoretical foundations in stage direction to engage the viewer.
THEATER DIRECTION II	TE 432	Develop creativity with scenic elements to develop a staging quality.
APPLIED COMMUNICATION AND RESEARCH		
MEXICAN LITERATURE	LI 260	Analyze the most representative works of Mexican authors of the nineteenth century through a direct approach to their texts. Contextualize the works concerning the most representative cultural events (painting, cinema, philosophy, etc.).
APPLIED STATISTICS	AE 305	Implement methods and manage data description methods of statistical inference as regards estimation, hypothesis testing, experimental design and linear models.
COMMUNICATION THEORIES SEMINAR I	CO 325	Master the main concepts of and theories in communication studies and culture, as well as the authors who have made outstanding contributions to the field
INTERNATIONAL COMMUNICATION	CO 337	Recognize the arguments in international communication discussions. Distinguish the main characteristics of communication between nations and cultures.
COMMUNICATION AND MARKETING	CO 465	Master the conceptual management principles and origins of social marketing. Recognize the relationship of social and commercial marketing. Apply the principles of marketing communication campaigns
COMMUNICATION AND ORGANIZATIONAL DEVELOPMENT	CO 367	Master the main concepts related to organizational development. Apply the concepts through concrete analysis in an institution.
QUANTITATIVE RESEARCH WORKSHOP (CONTENT)	CO 414	Master the techniques of content analysis in communication, identify the comparison units a subject of social interest.
QUALITATIVE RESEARCH WORKSHOP (DISCOURSE)	CO 413	Develop empirical analysis of media content from a qualitative perspective. To do this, the student will become familiar with the most relevant and recent theoretical arguments about media representations and ideological and cultural

		implications, as well as the methods and analytical techniques that enable them to recognize and study.
COMMUNICATION THEORIES SEMINAR II	**CO 416**	Master the main concepts of and theories in communication studies and culture, as well as the authors who have made outstanding contributions to the field.
ORGANIZATIONAL COMMUNICATION RESEARCH	**CO 441**	Master the design of social research and the procedures and techniques used to evaluate two of the most important aspects of organizational communication: organizational culture and working environment.
PUBLICITY AND PUBLIC RELATIONS	**CO 452**	Identify appropriate communication systems to develop the right mix between advertising, promotion and public relations which together achieve the objectives of a communication strategy.
CORPORATE IMAGE EVALUATION	**CO 473**	Implement different mechanisms to evaluate the corporate image of any company or institution through a concrete analysis.
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
DESIGN AND EVALUATION OF COMMUNICATION PROJECTS	**CO 477**	Diagnose a social problem and design a suitable communication project to contribute to its solution.
RESEARCH SEMINAR	**CO 421**	Identify research questions on the same topic from different theoretical approaches to recognize and evaluate the impact of social consequences.
QUANTITATIVE RESEARCH WORKSHOP (SURVEY)	**CO 459**	Dominate the conceptual and operational research technique called social survey, specifically: a) Construction of research questions, b) Operationalization of variables and questionnaire design, c) sampling techniques and d) Evidence of inferential statistics.
QUALITATIVE RESEARCH WORKSHOP (RECEPTION)	**CO 486**	Conduct empirical analysis of media reception from an ethnographic perspective. To do this, the student will become familiar with the most relevant and recent theoretical arguments about receiving media and its ideological and cultural implications, as well as ethnographic methods and techniques.
COMMUNICATIN FOR DEVELOPMENT AND SOCIAL CHANGE	**CO 491**	Design, implement and evaluate communication strategies for development and social change.
GRADUATION PROJECT I	**CO 496**	Develop a project which puts into practice the knowledge acquired throughout their studies.

PROJECT MANAGEMENT	BA 460	Manage projects effectively and appropriately through a comprehensive and consistent methodology, valid for any type of project, including organizational, technical and human.
PRODUCTION OF EDUCATIONAL MATERIALS	CO 487	Plan, implement and evaluate educational materials and dissemination of knowledge.
RESEARCH IN PUBLIC AND PRIVATE ORGANIZATIONS WORKSHOP	CO 488	Design and develop research projects that leverage the qualitative and quantitative methods applied to the professional field.
PROFESSIONAL SEMINAR	CO 494	Apply and develop skills and knowledge within public or private sector under the supervision of an employer to assess their performance in the practice of your seminar.
GRADUATION PROJECT II	CO 497	Develop and finalize a project with the notable aspects of research initiated during Graduation Project I.
ELECTIVES IN APPLIED COMMUNICATION AND RESEARCH		
INTERNATIONAL ECONOMIC POLICY I	RI 377	Master international political economy theories and apply them to the analysis of economic and global political processes.
PRINCIPLES OF ECONOMICS	EC 105	Develop the basic elements of economic analysis emphasizing its application to understanding contemporary economic phenomena.
POLITICAL PHILOSOPHY	RI 114	Master the philosophical foundations to apply to the construction of theories of international relations and international political economy.
MODERN POLITICAL THINKING	RI 115	Review the uses of political philosophy with contemporary problems, undertake similar efforts to build and test of political theories.
INTRODUCTION TO PHILOSOPHY	FI 130	Produce and develop critical and theoretical texts on philosophical topics discussed in class.
CRITICAL AND CREATIVE THINKING SKILLS	ED 153	Elaborate categorical, causal, evaluation and proposal arguments in a logical, consistent, creative and relevant way that allows the student to acquire solidly founded ideas, concepts and theories.
PROMOTION AND POSITIONING	MK 210	Identify the promotion variable within the marketing mix.,\ Know the importance of positioning within the marketing strategy in the company and develop tools that allow the student to design positioning campaigns.
SERVICE MARKETING	MK 216	Develop, plan and implement marketing strategies for services businesses. Analyze service organizations and adjust marketing goals and strategies accordingly.

HUMAN RESOURCES MANAGEMENT	BA 211	Analyze and apply the most important HR concepts and functions within organizations
INFORMATION MANAGEMENT	BA 230	Assess the strategic importance of information technology in organizations and develop the skills to use it as support in operations, decision-making and competitive advantage of organizations.

LICENCIATURA IN DANCE

INTRODUCTION TO DANCE	DA 101	Master and analyze the concept of dance and its discourses Master and analyze the concept of dance and theoretical discourses from the early era to modern dance, considering the cultural backgrounds and philosophical that helped shape the technical concepts and aesthetic of this art.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	
BALLET TECHNIQUE I		
CONTEMPORARY DANCE TECHNIQUE I		
ALTERNATIVE TECHNIQUE I		
EXECUTION AND ENSEMBLE I	DA190	
BALLET HISTORY	DA 122	Identify and analyze the development of the Ballet since its inception (XVI century) until the beginning of the twentieth century, considering the cultural backgrounds and philosophical that helped shape the technical concepts and aesthetic of this art.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE I	ID	
ELECTIVE I		
BALLET TECHNIQUE II		
CONTEMPORARY DANCE TECHNIQUE II		

ALTERNATIVE TECHNIQUE II		
TRENDS AND PROBLEMS IN DANCE	DA 222	
ART AND ITS DISCOURSES I	HA 108	Master the specifics of the socio-cultural context that led, in the Western context, to the invention of art. Also, master the specific problems of art discourses and, therefore, of the art before art, of art for art and the art after art. Master the categories of art speeches /about art problems.
SECOND LANGUAGE II	ID	
KINESTHESIA	DA 232	Apply knowledge related to the anatomy of the body and its phenomena of neuro-muscular movement through practical methods and applied scientific Dance studies.
BALLET TECHNIQUE III		
CONTEMPORARY DANCE TECHNIQUE III		
ALTERNATIVE TECHNIQUE III		
DANCE ELECTIVE I		
ART AND SENSE	AP 112	Analyze the relationship between art and philosophy from a historical perspective, to identify the result of the evolution of the philosophy of language and from a thematic perspective as a key element to understand the paradigm shift that characterizes cultural production in the art field.
SECOND LANGUAGE III	ID	
BALLET TECHNIQUE IV		
CONTEMPORARY DANCE TECHNIQUE IV		
ALTERNATIVE TECHNIQUE IV		
CHOREOGRAPHY RESEARCH METHODOLOGIES	DA 261	Develop research methodologies of movement and choreography to reflect on and apply the different tools and discourses in composition. Explore the composition of solos and duets.
THEORY OF PERFORMING ARTS	DA 333	Create an extensive debate field based on recent studies of the performing arts and theories of performance, not as a genre, but as an act of interdisciplinary interaction and transfer through which a sense of the world and of being is understood and/or created from relative inter-subjectivity.
ART, HISTORY AND CULTURE	AS 137	In this course selected art history topics are analyzed, emphasizing the influence of political, social and economic change in the transformation of both conceptualization models and conservation of cultural heritage.

CONTEMPORARY DANCE TECHNIQUE V		
CORPORAL-TEXTUAL DISCOURSES	DA 362	Critically analyze the multiplicity of existing processes and discourses in artistic practice, while investigating their own methodologies and developing individual and/or group corporeo-textual discourses that dialogue with the professional manifestations of Contemporary Dance and other Arts.
DANCE ELECTIVE III		
THEORETICAL-PRACTICAL SEMINAR I	DA 320	Recognize new approaches and discoveries around their discipline at the end of the twentieth century and the beginning of the XXI. MAster the current issues to understand the development of dance in contemporary society.
TEACHING TECHNIQUES I	DA 370	Identify and master the pedagogical techniques in teaching classical ballet at the basic level. Identify and analyze the fundamental concepts that are the goals in teaching this art.
ELCTIVE II		
BALLET TECHNIQUE VI		
CONTEMPORARY DANCE TECHNIQUE VI		
ELECTIVE IN DANCE IV		
CULTURAL AND CRITICAL RESEARCH	HU 290	Provide the student with the tools for to analyze cultural products and put together a critique that explains and present them publicly. Practical mechanisms are offered to the student to detect points of interest in cultural productions, such as cinema, literature or art. Database and publication resources are indicated to contrast them and nurture their critical debate.
GENERAL STUDIES II	EG	
BALLET TECHNIQUE VII		
CONTEMPORARY DANCE TECHNIQUE VII		
DANCE ELECTIVE V		
SOCIAL RESPONSIBILITY	RS 498	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
THEORETICAL-PRACTICAL SEMINAR II	DA 425	Dominate current issues relevant to the understanding of the development of dance in contemporary society. Recognize new approaches and discoveries around their discipline in the twentieth and twenty-first century.

GRADUATION PROJECT I	DA 498	Identify, break down and structure the individual concerns, gaps and/or possibilities intrinsic to this area, an experimental investigative methodological practice that leads to the conception and approach of a corporeo-textual discursive proposal as a potential platform for the final project to conclude the Licenciatura in Dance.
GENERAL STUDIES III	EG	
GENERAL STUDIES IV	EG	
THEATER ELECTIVE I		
DANCE ELECTIVE VI		
GRADUATION PROJECT II	DA 499	Show the proposal for the experimental methodological research practice to develop the final project in a procedural way and achieve its concretization, as a mature and impactful corporeo-textual discourse for the field of artistic creation and/or research.
DANCE AS A PROFESSION	DA 360	Mastering Dance Criticism, Research, Cultural Platforms and different specialties. Develop a workable project in the professional field that diagnoses and treats specific problems and provides creative and visionary solutions.
ELECTIVE III		
GENERAL STUDIES V (CO-CURRICULAR)	EG	
BALLET TECHNIQUE I		
BALLET I BEGINNER I	TF 141	Analyze the movements of Classical Ballet technique, by executing steps under consideration of the level I beginner, at work half a point.
BALLET I INTERMEDIATE I	TF 143	Demonstrate managing combinations of steps with the required complexity I Intermediate I level, achieving proper coordination between movement and music.
BALLET I INTERMEDIATE II	TF 145	Achieve the correct positioning of the body, arms and head, coordinating the movements, cleaning, attack and resistance step.
BALLET I ADVANCED	TF 147	Dominate the movements of the Classical Ballet technique with an artistic projection corresponding to the skills acquired.
CONTEMPORARY DANCE TECHNIQUE I		
CONTEMPORARY DANCE I BEGINNER	TF 161	Master the movements of contemporary dance technique through the execution of sentences under consideration of the level I beginner, work in parallel position

CONTEMPORARY DANCE I INTERMEDIATE I	TF 163	Develop and acquire new information through body research regarding principles and methodologies specific learning, to increase the level of awareness of the body as a means of expression and thought, according to the individual potential of movement, promoting the application of critical thinking considerations for the body and the concepts corporealization
CONTEMPORARY DANCE I INTERMEDIATE II	TF 165	Extend the range of dancing skills through continuous practice established movement sequences and specific technical studies based on the physical challenge of the body content
CONTEMPORARY DANCE I ADVANCED	TF 167	Master the movements of contemporary dance technique through the execution of sentences under study for the Advanced level, floor work and spatial displacement.
ALTERNATIVE TECHNIQUE I		
POINTE I BEGINNER/ INTERMEDIATE	TF 151	Movements develop the technique of dancing on pointe, from their most elementary forms, giving students the knowledge, habits and specific technical skills of the subject.
POINTE I INTERMEDIATE / ADVANCED	TF 153	Apply the technique of the turn points to level I Intermediate / Advanced, perform exercises of medium complexity.
CONDITIONING I	TF 155	Develop skills that support complex neuro-muscular coordination. Handle stretching techniques, strength, flexibility and relaxation muscular-skeletal.
DANCE TECHNIQUE I	TF 157	Develop basic techniques for proper body alignment through exercise center.
BALLET TECHNIQUE II		
BALLET II BEGINNER	TF 142	Dominate the movements of the Classical Ballet technique in its simplest forms, by executing steps object of study beginner level II at work half a point, correctly using space.
BALLET II INTERMEDIATE I	TF 144	Exercises with the degree of difficulty required for Level II Intermediate I simple movements including arms, achieving proper coordination between the upper and lower extremities.
BALLET II INTERMEDIATE II	TF 146	Develop a sense of balance, through the work of Adagio, achieving stability through slow movements.
BALLET II ADVANCED	TF 148	Mastering the coordination of legs, arms and head, exercises greater technical complexity, which is used relevé, turns and legs l'air; achieving different shades to use the different rhythms and musical airs.
CONTEMPORARY DANCE TECHNIQUE II		
CONTEMPORARY DANCE II BEGINNER	TF162	Analyze and develop the movements of contemporary dance technique, by executing sentences object of study beginner level II, in the work of body positions.

CONTEMPORARY DANCE II INTERMEDIATE I	TF 164	Develop new skills in terms of posture and mechanics for the efficient movement relative to breathing.
DANZA CONTEMPORÁNEA II INTERMEDIATE II	TF 166	Run combinations of movements and work processes and different qualities of shares of the body.
CONTEMPORARY DANCE II ADVANCED	TF 168	Mobilizing the spine, elongate legs and transfer the weight from one leg to another; to acquire a greater awareness of the body in space; increasing the degree of difficulty.
ALTERNATIVE TECHNIQUE II		
POINTE II BEGINNER / INTERMEDIATE	TF 171	Develop the technique of dancing on pointe level II Beginner / Intermediate, demonstrating capacity for understanding and thoughtful analysis in the execution of movements
POINTE II INTERMEDIATE / ADVANCED	TF 173	Master the contents of the subject, using the characteristics of the movements, achieving the same stage projection
CONDITIONING II	TF 175	Explore the body through specific exercises: body parts, breathing and movement patterns, focused on joints and muscles and release of tension and restrictions. Dominate exercises Laban-Bartenieff
DANCE TECHNIQUE II	TF 177	Improve movement patterns and habits, achieving proper alignment of the body.
BALLET TECHNIQUE III		
BALLET III BEGINNER	TF 241	Execute the moves and steps object of study beginner level III, conducting exercises in dedans
BALLET III INTERMEDIATE I	TF 243	Give the student practice related to the subject Ballet III Intermediate I, which will acquire you the practical-cognitive tools necessary to perform successfully and be able to deal with the subsequent base required courses Classical Ballet.
BALLET III INTERMEDIO II	TF 245	Master the technique of turning en dehors and dedans exercises using medium complexity
BALLET III ADVANCED	TF 247	Dominate Adagio movements, developing a greater sense of balance in relevé
CONTEMPORARY DANCE TECHNIQUE III		
CONTEMPORARY DANCE I BEGINNER	TF 261	Master the movements of contemporary dance technique through the execution of sentences under consideration of the level I beginner, work in parallel position
CONTEMPORARY DANCE III INTERMEDIATE I	TF 263	Develop primary exercises advanced diagonals, to develop awareness of the body in space travel

CONTEMPORARY DANCE III INTERMEDIATE II	TF 265	Develop expressive skills through the execution of specific movement sequences attention on how the content form denotes
CONTEMPORARY DANCE III ADVANCED	TF 267	Dominate sequences medium warmups and be able to perform smoothly
ALTERNATIVE TECHNIQUE III		
CONDITIONING III	TF 255	Show an intermediate domain technique as yoga body conditioning means, providing flexibility to the body and mental and physical balance; promoting the constant search for yogic practices sequences that fit the needs and abilities
DANCE TECHNIQUE III	TF 257	Achieve a high level of muscle efficiency, reflexes and movement control through the practice of executing medium combinations
BALLET TECHNIQUE IV		
BALLET IV BEGINNER	TF 242	Develop the technique and practice of Classical Ballet IV beginner level using movements and steps that strengthen the quadriceps muscles, tibialis and peroneal
BALLET IV INTERMEDIATE I	TF 244	Develop the technique of turning from basic exercises in Barra, Central and Allegro
BALLET IV INTERMEDIATE II	TF 246	Correctly apply the technique of turning point average in exercises displacement twists and turns continuing and increasing the number of turns
BALLET IV ADVANCED	TF 248	Master exercises in preparation for large bar spins, jumps and dance in the center with long combinations of spins, jumps and direction changes
CONTEMPORARY DANCE TECHNIQUE IV		
CONTEMPORARY DANCE IV BEGINNER	TF 262	Increase awareness of the body in space travel with an emphasis on coordination and suspension
CONTEMPORARY DANCE IV INTERMEDIATE I	TF 264	Develop the strength of the abdomen in connection with breathing difficulty elements through exercises Contrology
CONTEMPORARY DANCE IV INTERMEDIATE II	TF 266	Develop movement sequences with high average complexity and mix the increasing dominance of bodily implications to the dance expression. Promote joint analysis and corrections in pairs
CONTEMPORARY DANCE IV ADVANCED	TF 268	Develop coordination skills, alignment, performance and flexibility through exercises center and complex combinations
ALTERNATIVE TECHNIQUE IV		
CONDITIONING IV	TF 275	Develop Conditioning Body to Advanced level through practice Pilates or Contrology, from the beginner practice to advanced, through a series of ordered exercises that promote muscle efficiency and work body system set of all its components

DANCE TECHNIQUE IV	TF 277	Dominate mechanisms and movement patterns, showing sensitivity and efficiency neuro-muscular
BALLET V		
BALLET V INTERMEDIATE I	TF 343	Employ exercises, to begin developing the technique on jumps Battu
BALLET V INTERMEDIATE II	TF 345	Exercises with more complex movements, demonstrating the proper use en dehors and en dedans
BALLET V ADVANCED	TF 347	Dominate the big jumps, spins and combinations high degree of difficulty, the first time in the bar and the last half hour in the center.
CONTEMPORARY DANCE TECHNIQUE VI		
CONTEMPORARY DANCE V INTERMEDIATE I	TF 363	Reaffirm and develop principles, concepts, practices and contemporary dance vocabulary V Intermediate I level, with the adagio introduction to the twists and spirals, to extend and strengthen dancing skills performing safety spatial movements
CONTEMPORARY DANCE V INTERMEDIATE II	TF 365	Master exercises coordination, strength, flexibility and balance through combinations focused on the style in the interpretation
CONTEMPORARY DANCE V ADVANCED	TF 367	Demonstrate advanced mastery of the body in the context of contemporary dance through the conceptual and physical understanding of complex features that make the movement in space with sequential changes in levels
CONTEMPORARY DANCE V B ADVANCED	TF 361	Master new degrees of difficulty, work level, multi-dimensional spatial planes and directions for handling the body in space with a focus on fluency exercises and body awareness
BALLET TECHNIQUE VII		
BALLET VI INTERMEDIATE I	TF 344	Develop the technique Battery (Battu) in small jumps, from basic exercises
BALLET VI INTERMEDIATE II	TF 346	Develop the technique of slow rotation in Barra and Centro
BALLET VI ADVANCED	TF 348	Master jumps combinations with turns
CONTEMPORARY DANCE TECHNIQUE VI		
CONTEMPORARY DANCE VI INTERMEDIATE I	TF 364	Master breaks foot to foot to fall to the floor and recovery to develop skills in advanced with Sotés changing directions and coordination
CONTEMPORARY DANCE VI INTERMEDIATE II	TF 366	Master the techniques of contemporary dance Hawkins and Lemon with emphasis on complex combinations of rhythm

CONTEMPORARY DANCE VI ADVANCED	TF 368	Demonstrate the ability to perform complex motion sequences with emphasis on big jumps with asymmetric torsos
CONTEMPORARY DANCE VI B ADVANCED	TF 362	Dominate motion sequences with changes and advanced pelvis to acquire greater range of opportunities to increase physical and expressive capabilities. Strengthen leg extensions
BALLET TECHNIQUE VII		
BALLET VII INTERMEDIATE I	TF 443	Employ exercises, to begin developing the technique on jumps Battu
BALLET VII INTERMEDIATE II	TF 445	Exercises with more complex movements, demonstrating the proper use en dehors and en dedans
CONTEMPORARY DANCE TECHNIQUE VII		
CONTEMPORARY DANCE VII INTERMEDIATE II	TF 463	Body connection master skills for interpreting movement phrases with emphasis on alternating shifts, changes of direction and fluidity of execution
CONTEMPORARY DANCE VII ADVANCED	TF 465	Explore the body and skills acquired its full potential and demonstrate the ability to self critical assessment as to the development of the skills of Contemporary Dance at the completion of the Advanced level, at the time, dancistic skills will be strengthened to the extent more optimum performance and analysis
CONTEMPORARY DANCE VII B ADVANCED	TF 462	Explore the body and skills acquired its full potential and demonstrate the ability to self critical assessment as to the development of the skills of Contemporary Dance at the completion of the Advanced level, at the time, dancistic skills will be strengthened to the extent more optimum performance and analysis; This level presents more practice hours so that the student must demonstrate advanced refining his own technique
DANCE ELECTIVES		
BALLET REPERTOIRE AND PRODUCTION I	DA 282	Develop technique and practice in the classical ballet repertoire level I. Dominate dance as expressive body system training. Run movements of classical ballet technique to develop bodily expressiveness I. Developing the capacity level of understanding and thoughtful analysis of dance through presentations of the dance department. Develop skills in theatrical expression in classical ballet at the level I. Identify and develop responsibilities in participating in a work of classical ballet at the level I. Study and practice production tools in a production level I. develop skills at work for a stage production technical level I
CONTEMPORARY REPERTOIRE AND PRODUCTION I	DA 292	Creatively rehearse a finished contemporary dance work with or without an audience to gain a sense of completeness and semi-professional performance

BALLET REPERTOIRE AND PRODUCTION II	**DA 381**	Interpret the ballet "Giselle" (1841). representative work of the Romantic Ballet, analyzing the time it was created, and history that is based its argument
CONTEMPORARY REPERTOIRE AND PRODUCTION II	**DA 391**	Formally rehearse a complete contemporary dance work. Conduct a rtage rehearsal
BALLET REPERTOIRE AND PRODUCTION III	**DA 382**	MAster the female characters and the romance of the poet through the analysis and implementation of the ballet "Les Sylphides" (Chopiniana) (1909), representative work of the neo-romantic style in the Ballet
CONTEMPORARY REPERTOIRE AND PRODUCTION III	**DA 392**	Demonstrate the ability to transform movement with elements of qualitative expression. Participate in the ensemble and develop a work.
BALLET REPERTOIRE AND PRODUCTION V	**DA 482**	Interpret works from the contemporary repertoire of the Ballet, whether they are revivals or newly created ones, which allow the student to practice new forms of movement and themes
CONTEMPORARY REPERTOIRE AND PRODUCTION V	**DA 492**	Work as assistant coach in the production of a contemporary dance repertoire to develop the skills necessary to carry out the organization, preparation, assembly and presentation of the work
BALLET REPERTOIRE AND PRODUCTION VI	**DA 483**	Interpret the work "Blue Concert". Neoclassical-style Modern Ballet
CONTEMPORARY REPERTOIRE AND PRODUCTION VI	**DA 493**	Demonstrate mastery of the Production aspects of a work of contemporary dance repertoire through Scenic Practices where the skills will be developed that allow the elaboration of formal production proposals.
ELECTIVES IN THEATER		
INTRODUCTION TO THEATER	**TE 120**	Synthesize the basic information about the origins and evolution of theater as art and social manifestation. Distinguishing the various theatrical forms corresponding to different cultures. Identify the roles of participants in theatrical creation. Organize a theatrical terminology file
THEATER I	**TE 221**	Identify technical and historical-social course of the performance, from its origins to the present rituals and recognize the different trends of creation in this area
THEATER II	**TE 222**	Generate their own analysis from the major categories and methodological approaches to analyze a dramatic text.

MEXICAN THEATER I	**TE 225**	Organize a monographic tour of the theater in Mexico from the characteristics of the theatricality of the indigenous peoples of Mexico before the arrival of European culture as well as the presence and evolution of forms of theatricality in the scenic practice. Introduce Spanish colonization in New Spain from the XVI century until the end of the eighteenth century, both in its theatrical and dramatic aspects.
MEXICAN THEATER II	**TE 226**	Identify the characteristics and objectives of the practice stage in Mexico since the beginning of the nineteenth century to the present: conditions of representation, types of stage space, types of production and organization, training of the theater artist, dramaturgy, evolution of aesthetic forms of staging
ACTING TECHNIQUES I	**TE 112**	Distinguish and develop creative and expressive capacity. Verify their incorporation into spaces. Plan and execute games of cohesion, commitment to action and interrelation.
ACTING TECHNIQUES II	**TE 116**	Apply knowledge concerning the language of action. Direct the process of how to place emotions within the given circumstances. Relate and exercise the process of emotional expression through improvisations.
ELECTIVES IN FINE ARTS		
FUNDAMENTALS OF REPRESENTATION	**AP 101**	Represent the fundamental elements of the drawing: point, line, plane, and volume, experimenting with basic materials and psycho-motor exercises with an intention of gestural immediacy, to help develop the expressive capacity in a problem of representation of space through relationship of objects
WASHI ZOQUEI	**AP 362**	properly use the traditional process of Japanese origin (Washi Zoquei), applying these processes and knowledge in performing functional works without losing its plasticity and understand the possibility of creating paper supports for use in projects belonging to other subjects such as graphic materials.

PLANNING ARTISTIC PROJECTS	AP 271	Argue and apply the methodologies, strategies, training concepts and public spaces of artistic/curatorial and construction development projects that can compete in cultural and private spaces, to create the knowledge and skills that the art market for needs to be inserted into professional career field.
CERAMICS	AP 460	Dominate the constructive principles and techniques of traditional ceramics as pottery activity, the use of the ceramic furnace as burning clay and baking enamels. Also using lathes to create objects or ceramic pottery with designs and innovative solutions within the technical guidelines.
ENVIRONMENT PRODUCTION WORKSHOP	AP 470	Elaborate a scenic work through body language using the different techniques with scenographic elements. Analyze the history of working with the body and its main representations to develop skills in these techniques, incorporating them to produce their own works.
ELECTIVES IN DANCE		
COLLABORATION: MUSIC AND DANCE	DA 432	Create dance works in collaboration with a composer. Develop movements and themes from the music elements. Investigate different styles to develop and organize the relationship between music and dance in a play. Demonstrate ideas, concerns and moving personal experience. Build a work where the elements of music and dance are essential to the central idea. Critically analyze all existing processes towards the creation and collaborative process.
THEORETICAL-PRACTICAL SEMINAR III	DA 426	Identify and analyze the research practice in a general interest and newly emerging dance topic to make a presentation.
THEORETICAL-PRACTICAL SEMINAR IV	DA 427	Analyze, describe and develop theories about new choreographies.
EXECUTION AND ENSEMBLE II	DA 390	Research and develop the choreographic composition and its possibilities through a creative process that delves into an exploration of the body in space for the breakdown of movements, departing from different structures and methodologies of composition and demonstrating the corporealization of ideas.

EXECUTION AND ENSEMBLE III	**DA 490**	Demonstrate advanced skills for staging a formal work and its surrounding corporeo-textual discourse through methodological research.
TEACHING TECHNIQUES II	**DA 470**	Identify and master the pedagogical techniques in teaching classical ballet at the basic level, identifying the fundamental concepts that we have as goals in the teaching of this art.
ELECTIVES IN PHILOSOPHY		
INTRODUCTION TO PHILOSOPHY	**FI 130**	Introduce the student to philosophy through active participation in the analysis of general concepts and specific philosophical problems. Develop in students the skills required for philosophical dialogue with their classmates.
TOPICS IN CURRENT THINKING	**FI 345**	Analyze contemporary issues that are currently redefining the contents of disciplines such as philosophy, anthropology and sociology.
OTHER COURSES		
INTRODUCTION TO ADMINISTRATION	**BA 100**	Understand management and complex business world. Analyze the theory of the administrative process, defining their strengths, weaknesses and study some theoretical alternatives for addressing such deficiencies.
ELECTIVES IN ART HISTORY		
ART AND ITS DISCOURSE II	**HA118**	Understand the socio-cultural context that led some European philosophers to develop the construction of a specific reflection on this field from the eighteenth century. Also, discuss some of the outstanding positions of these speeches that have been reused by other theorists and artists throughout the twentieth century to support their ideas and/or defend their proposals.
NEW TRENDS	**HA 426**	Identify and compare developments in artistic practices, the exhibition strategies and theoretical proposals for the last two decades. Master new audiovisual syntax in which contemporary art practices are supported
CURRENT ART THEORY	**HA 418**	Analyze the concepts of Modernism-Postmodernism as the focus of discussion and development of artistic practices throughout the twentieth century, especially in contemporary times. Understand the different approaches and controversies that make up the debate in question and capacity to employ its terms critically.
ART OF THE FIRST HALF OF THE 20TH CENTURY	**HA 406**	Apply the study of the development of contemporary art in Europe in the first half of the twentieth century, emphasizing the critical appraisal of each of the currents, tendencies and different movements that characterize.
ELECTIVES IN HUMANITIES		

CULTURE THEORIES	HU 120	Analyze the concept of culture as a matrix in which to insert artistic productions in their different facets: social, economic, cosmological, religious and formal. Understand the concepts of culture, especially their meanings idealistic, materialistic, anthropological. Provide a typology to group the different variants of cultural production in response to syntactic and semantic features in its cataloging: action, ritual and orality; music; image; writing; and audiovisual. Carefully analyze the peculiarities and special problems generated around cultural production throughout the twentieth century in the context of the consumer society. Analyze the discussion high versus low culture, to elucidate what the media culture and how cultural production is changed in late capitalism.

LICENCIATURA IN LAW

INTRODUCTION TO LAW	DE 100	Establish a framework for the valuation methods of legal norms, positive law, real and natural right, knowing theorists and philosophers most representative of each school of thought. Master the concepts of the legislative process, the separation of powers and fundamental legal concepts.
ROMAN LAW	DE 165	Analyze the Roman Law as the basis of Mexican law, to determine their membership in the Latin system.
CIVIL LAW I	DE 120	Master the concepts of civil law, specifically everything related to individuals and families. Developing the capacity to determine the legal relationship between individuals and family.
THEORY OF THE STATE	DE172	Access to specialized information on the topic (Theory of the State). Participate in the creation of sustained knowledge of that industry and the procedures to access sources of information (experience, values, expectations, etc.). Use the theoretical and practical tools to apply that information and knowledge in the context of professional studies as well as part of their professional development as a work activity. Know, understand, deepen, criticize, change views and approaches, proposing to redraft and participate in the theories and techniques for creating a particular field of knowledge.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.

SECOND LANGUAGE I	ID	
LEGAL RESEARCH TECHNIQUES	DE 180	Identify relevant sources of information to successfully write a thesis. Develop the analytical capacity to do any legal research project and use research methods applicable to the development of legal science.
HISTORY OF LAW IN MEXICO	DE 173	Know and understand Roman law as a fundamental legal basis for the Mexican positive law, as Latin system influenced by legislation and the doctrine of countries like France and Spain
CIVIL LAW II	DE 174	Obtain and master the concepts relating to goods and inheritance. Master the basics of relationships between people and their property to deepen their study and research on various aspects of civil law
CRIMINAL LAW I	DE 240	Master the principles of criminal law, the theory of the crime, guaranteeing principles, versions of criminal law, principles of noun and adjective order and its connection with the crimes that arise in everyday life.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
CONSTITUTIONAL LAW I	DE 228	Master the historic universal constitutionalism concepts, and that of the Constitution as a central institution in a democracy with the rule of law. Analyze Human Rights, its inclusion in the Constitution and g individual uarantees, as well as the means for their defense. Determine the dogmatic part of the Constitution, rights, guarantees. Analyze the state of emergency and its consequences, the limits of rights under the Constitution. Argue the relationship and importance of the Constitution and the Legal Ordinance; study regulatory hierarchies. Analyze national and foreign standards, including those in the national legal system. Incorporate the concepts of Introduction to the study of the Law and Theory of the State.

COMMERCIAL LAW I	DE 250	Master trade, as well as the rules applicable to traders and nature of legal relations with those individuals and corporations who are not engaged in trade through knowledge of merchant science. Develop a critical version of Mexican law, its successes and shortcomings i, which the student will master through practical exercises and readings.
CIVIL LAW III	DE 225	Determine the sources and elements of the obligations and their effects. Master and apply the methods of classification of obligations and the legal framework relating to the transmission, modalities, obligations complex and the extinction of obligations
CRIMINAL LAW II	DE 245	Analyze what is Criminal Law and its difference with the Science of Criminal Law and Criminology, the evolution of criminal ideas and the main scientists of the various schools. Know and master the specific forms of interpretation of Criminal Law and the material, personal and territorial areas of Criminal Law in the Mexican Legal System.
GENERAL STUDIES I	EG	
SECOND LANGUAGE III	ID	
CONSTITUTIONAL LAW II	DE 233	Analyze and understand the Organic Part of the Constitution, the Executive Power, specifically the Legislative and Parliamentary Technical Power; the judicial power; generalities about the Amparo Trial and other legal and political forms of defense of the Constitution (The Political Trial, the Constitutional Controversy). Carry out comparative studies of the content of other important constitutions in the world. Analyze and know, from an interdisciplinary point of view, the organic structure of the State, historical, theoretical, functional and structural aspects of the various Powers of the State, at the national level and in comparative studies. With this, obtain the ability to control the constitutionality of the Mexican legal system.
COMMERCIAL LAW II	DE 253	Dominate t knowledge of credit titles, the management, operation and system of exceptions that give life to one of the most important lawsuits of our legal system due to its frequent promotion, the Commercial Executive Trial. Develop the necessary skills for the assembly and transmission of credit titles, both causal and autonomous. Obtain a brief introduction to the basic credit operations regulated by the Foreign Exchange Law, as its development will be studied in the Banking and Financial Law course

CIVIL LAW IV	DE 256	Build an overview on major contracts governing our legislation and identify the characteristics that distinguish them. Determine the nature and elements of contracts in general and its traditional classification. Master the conceptual and operational management of each of the contracts subject to this program, the way the contracting parties create and acquire rights and obligations.
CRIMINAL PROCEDURAL LAW	DE 255	Master and apply knowledge of criminal procedure, knowledge that will allow develop as an actor in such proceedings, as part of the prosecution, and judicial authority or defense character
ADMINISTRATIVE LAW I	DE 235	Master the conceptual and operational management of the General Theory of Administrative Law, concepts, sources, classifications and key institutions. Know and master the Theory of the Administrative Act, and from there, \ understand the functioning of public administration, both federal and state. Deepen the knowledge of the functions, powers and functions of the various agencies of the Federal Executive Branch (mainly) and local levels. Understand the relationships between public and private, law between internal and external law, the various influences that currently generate international relations in our administrative law; and content from diverse rules in this field to use alternative means to solve administrative disputes.
GENERAL STUDIES II	EG	
HUMAN RIGHTS	DE 386	Know and study the evolution and powers of the institutions responsible for the protection and monitoring of human rights in Mexico and the world. Promote respect for human rights in the exercise of the profession. Clearly and objectively interpret the concept and content of human rights and promoting research into specific cases
BANKING LAW	DE 345	Master and apply the rules that regulate financial groups, especially credit institutions in terms of active and passive operations, being of vital importance the different credit instruments such as Simple Credits, Qualification or Avio, Refactionaries between others. Implement and manage operations that involve companies and individuals as they relate to any entity of the financial group, stock market operations being the core point.

CIVIL PROCEDURAL LAW	DE 325	Understand and use, through knowledge of the science of the commercial and civil process, the different means offered both by the Code of Civil Procedures of the State, and by the Code of Commerce to enforce the subjective rights derived from their substantive laws. Distinguish the different types of actions and the processing of the exceptions offered by the these regulations, as well as the use of resources to combat the decisions issued in court and the means to comply with them.
WORKERS RIGHTS	DE 342	Mastering the following concepts, practices and techniques: History, socio-political and economic relevance of Labor Law, in the world, in Mexico, and related labor and union movements; the management of individual and collective labor relations and their legal institutions; rights and obligations for workers and employers, the negotiation of a strike, from a worker or employer perspective; the content and preparation of an individual employment contract, a collective bargaining agreement and a law or industry contract. Know the unions, their structure, rules, operation and importance
ADMINISTRATIVE LAW II	DE 335	Understand the difference between concessions, permits, licenses, and authorizations. Forms of expression of the public administration in its relationship with the subjects involved, their requirements, characteristics and effects. Mechanisms to exercise said powers in the legal sphere of the State, as well as mechanisms to defend these rights in the legal sphere of the administered. Analyze the Administrative Deregulation process. Determine the nature of the financial and patrimonial regime of the State, its income and the basic ways of acquiring them; their expenditures and elementary ways of managing public spending, the different goods both in the public and private domain at the federation level, as well as the credits that make up the internal and external public debt; and the contract regime. Analyze the privatization process in Mexico and the links between economic policy and administrative law, as well as its application
GENERAL STUDIES III	EG	
AMPARO I	DE 330	Build a frame of reference of the ways to assess legal norms, Positive Law, Subjective Law and Natural Law, knowing the most representative philosophers of each current. The legislative process, the division of powers and the fundamental legal concepts are subject of study.

HEALTH AND ENVIRONMENTAL LAW	DE 361	Know and master health legislation, at the constitutional, legislative, regulatory, conventional, jurisprudential level. Know the environmental legislation, in the same aspects mentioned. Analyze the social reality in terms of health and the environment, in Mexico, the region and the world. Understand the importance of the Biotechnology industry in the framework of globalization, sovereignty, and sustainable development. Establish and manage the necessary procedure to carry out a legal file of Environmental Impact Study, both from the public and private point of view; to obtain permits, licenses, authorizations, etc. Know the reality of social security in health matters in Mexico. Establish and identify the procedures and files regarding organ donation and research studies considering the Informed Consent factor, within the framework of Health Institutions
TAX LAW	DE 365	Analyze and study the tax as an essential element and essential to obtain public income, as well as mastering the types of contributions, structural elements, tax and constitutional principles, which are the basis of the course, including the powers of verification by the active subject and the means of challenge against the illegal determinations
LABOR PROCEDURAL LAW	DE 375	Master the procedural legal framework of Labor Law in Mexico and, in turn, analyz the methodology and jurisdictional procedure in the resolution of labor disputes. Develop the necessary skills to build logical-legal arguments tending to develop procedural strategies in the resolution of labor disputes. Analyze the institutions in charge of substantiating labor legal procedures through the study of the law on the matter
PUBLIC INTERNATIONAL LAW I	DE 390	Analyze the evolution of world problems and the changes that are currently observed, which have shaped and determine the context in which Public International Law has developed and directly affects, through its institutions and regulations. Understand the Public International Law in force in Mexico, and the Principles and Interests in Mexican Foreign Policy. Apply the constitutional foundations of Mexican Public International Law. Evaluate the Law and our Foreign Policy.
COPYRIGHT LAW	DE 387	Understand the elements of intellectual property law in Mexico. Analyze the legal effects that the North American Free Trade Agreement has generated in Mexican Intellectual Property Law. Know the guidelines that the World Trade Organization establishes in matters of intellectual property. Apply and analyze the legal framework of Intellectual Property Law through the presentation of practical cases

AMPARO II	DE 414	Master the fundamental concepts of the judgment of guarantees as a means of protection and guardianship of Individual and Social Guarantees against laws and acts of authority that violate them
LAW PHILOSOPHY	DE 413	Acquire a clear vision of law as essence, as rational thought and its demystification process. Distinguish law as the creation and application of norms and know its philosophical and axiological aspects
PRIVATE INTERNATIONAL LAW	DE 490	Carry out a legislative and jurisprudential analysis of the applicable norms in the resolution of conflicts derived from international legal traffic. Know the institutions and conventional norms at the international level, as well as their structures, operating mechanisms and rules imposed by international diplomacy in private matters, through the Analysis of practical cases
CUSTOMS AND FOREIGN TRADE LAW	DE 409	Know the set of rules that regulate foreign trade, as well as the procedures and formalities that are carried out before the customs authorities for foreign trade operations. Analyze and know the relationship between the provisions of the Foreign Trade Law and the Customs Law in relation to the import and export of merchandise as well as the different authorities that intervene under these provisions
FORENSIC PRACTICE	DE 408	Recognize the concepts learned in the matters of processing law to apply said knowledge in the preparation of claims, responses, offers of evidence and allegations. Apply the procedural legal framework to specific cases. Construct logical-legal arguments aimed at claiming benefits and opposing exceptions in practical cases
GENERAL STUDIES IV	EG	
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
ELECTIVES IN TAX LAW		
ACCOUNTING FOR LAWYERS	DE 437	Examine the financial obligations of companies and other organizations, as well as the fundamentals governing the audit and generally accepted accounting principles, to handle basic accounting aspects to determine the financial position of the company and its results and determining taxes by individuals and companies.

TREASURY LAW	DE 444	Study the principles governing the financial activity of the State through the Income and Expenditure Laws and the political determination of Mexico, levels of collection and distribution of resources to the states
TAX THEORY	DE 439	Know the main theories of tax law, highlighting those of Spain, Italy and Mexico on issues of great importance such as taxes, the interpretation of the rules, tax authority, the Tax Legal Relationship, the Theory of the Taxable Fact, the Tax Obligation and Tax Principles
CONSUMPTION TAX	DE 443	Master the legal principles that regulate taxes referred and know the operational mechanics of this tax burden and the obligations to which taxpayers will be subject. Have sufficient knowledge to calculate and determine the value of the tax.
INCOME TAX FOR INDIVIDUALS	DE 421	Conceptually and operationally master the income tax to avoid errors that could imply tax evasion. Have sufficient technical-legal elements for exact compliance with the tax income law
GENERAL STUDIES V (CO-CURRICULAR)	EG	
SOCIAL SECURITY RIGHTS	DE 438	Analyze and substantiate the regimes included within the Social Security law, the legal provisions applicable to each one, the forms of contribution and the existing insurance, as well as the structuring and functions of the Mexican Institute of Social Security
TAX PROCEDURAL LAW	DE 431	Build knowledge and develop professional skills regarding procedures in fiscal and administrative matters, acts of authority and existing means of defense to declare the nullity due to the illegality of an administrative resolution. Analyze the processing of the nullity trial before the Federal Court of Tax and Administrative Justice in all its stages, including the incidents and the corresponding resources, as well as the direct amparo trial and appeal for tax review against the judgments issued by said body jurisdictional
PUNITIVE TAX LAW	DE 470	Identify and distinguish tax crimes and their respective sanctions according to the Tax Code and meet administrative offenses and corresponding penalties

ASSET TAX	DE 449	Master the structural elements of the asset tax, such as: object, taxable events, base, rate and payment period, as well as interpreting the respective law through an Analysis on the constitutionality of the tax in terms of the principles of legality, proportionality and equity
INCOME TAX FOR COMPANIES	DE 426	Know the Income Tax contained in Title II of the Law on Income Tax, through the study of the structural elements of the tax: object, base, rate and time of payment
THESIS SEMINAR	DE 499	Understand the general part of the methodology of legal research and the designs of practical application, to resolve legal conflicts that have the purpose of reinforcing or creating a theory, or strengthening general principles of Law in order to contribute to the development of legal science
ELECTIVE IN INTERNATIONAL PRIVATE LAW		
INTERNATIONAL TRADE AND FOREIGN INVESTMENTS	DE 451	Develop an overview of international legislation on commercial matters and the regulation of Foreign investment, mainly under the World Trade Organization and the impact on Mexican legislation.
GLOBALIZATION AND LAW	DE 452	Understand the phenomenon of globalization from various cognitive approaches, as well as its importance and impact in the political, economic, financial, social and especially legal fields of Latin America, specifically in Mexico. Evaluate prospective scenarios in these areas of law and reflect on existing proposals to achieve a more governed and efficient globalization in social terms for most of the world, within the framework of geopolitical relations. Derive from the previous reflections, techniques and useful skills to apply in the framework of professional development, from various potential positions (legislative, jurisdictional, executive, labor, consulting, commercial, commercial, financial, political, economic, social, diplomatic, etc.)
POSITIVE AND PROCEDURAL LAW IN THE US	DE 410	Acquire knowledge about the North American Legal System and the Common Law Legal System in general. Master the fundamental aspects on which the law of the United States is based to compare the similarities and differences with our legal system.
INTERNATIONAL PUBLIC LAW II	DE 497	Master topics such as: the origin of international organizations and their classification in their relative specification; international organizations of a general nature and worldwide scope; international organizations of a general regional nature; the international organizations of legitimate defense; specialized international organizations of global scope; the role of international organizations in the face of major global problems.
INTERNATIONAL CONTRACTS	DE 462	Understand the principles applicable to contracts and evaluate a situation in Foreign Trade related to international commercial contracting and identify the appropriate procedures to develop

		international commercial contracts. Also, master the principles of international contracting as well as the main clauses of an international sales contract.
GENERAL STUDIES V (CO-CURRICULAR)		
INTEGRATION LAW	**DE 464**	Analyze globalization, international trade and regionalization processes. Determine the different levels and degrees of economic integration and its impact on the legal framework and the political reality of nations and regions. Distinguish the nature of integration scenarios in the world, and the legal, economic and geopolitical rules that govern them. Examine the case of Mexico, its integration in North America and in the Latin American context. Mastering the conceptual management of changes in foreign and trade policy that Mexico requires for attaining more efficient insertion in the global neoeconómica integration. Compare the various mechanisms in trade policies, industrial, environmental, monetary, fiscal, customs, etc. that they have occurred in various parts of the world within the framework of integration processes. Evaluate the case of the European, American, Integration and the Pacific Basin; its rules and institutions
INTERNATIONAL ECONOMIC ORGANIZATIONS	**EC 433**	Analyze the historical development of the current international economic structure in the second half of the twentieth century, the way Mexico is inserted into this process, and prospects for such a structure and insertion. Know the main international institutions and economic organizations, operations and regulations. regions Reflect, with an objective view and the critical time, the main economic problems of the world today, while the advantages and disadvantages arising out of international economic structure for developed and developing countries. Acquire a critical view of the functioning of the main international organizations and some of the effects arising from the implementation of its policies (external debt, technological dependence, etc.
ALTERNATIVE MEANS TO SOLVE CONTROVERSIES	**DE 465**	Analyze the legal nature of alternative means of dispute resolution, whether in the public and private sectors. Evaluate the figure of international commercial arbitration as a means of settling disputes between individuals, and compare the means established by international treaties to resolve disputes between states or between the state and an individual. Thus compare the differences between each of these mechanisms
NORTH AMERICAN FREE TRADE AGREEMENT	**DE 466**	Identify in detail the provisions of the Free Trade Agreement of North America in relation to market access for goods and other provisions such as intellectual property, energy and foreign investment
MEXICAN POLITICAL SYSTEM AND FOREIGN POLICY	**DE 467**	Reflect and analyze concepts and historical stages of Mexico and participate in the formulation and communication of national foreign policy, to understand the link between the national socio-political and

		economic reality, the structure of the legal system; and the reflection of this in diplomacy, foreign policy and international relations
THESIS SEMINAR	DE 499	Understand the general part of the methodology of legal research and design a practical application to resolve legal disputes that aim to strengthen or create a theory or strengthen general principles of the law to contribute to the development of legal science

LICENCIATURA IN VISUAL INFORMATION DESIGN

THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
ELECTRONIC IMAGE	DV 111	Use the computer as a tool to generate and edit images and text for design projects.
INTRODUCTION TO VISUAL INFORMATION DESIGN	DV 161	Apply the bases and references of the discipline through the foundation documented in history, pointing out the different ways of integration with social, cultural and professional life
DESIGN ELEMENTS I	DV 121	Apply the visual language in solving basic compositions based on syntax of the image. Design messages using basic visual syntax; distinguish and apply the compositional categories in basic configurations of visual structures.
UNDERSTANDING FORM AND SPACE	AR 150	Identify the characteristics and create form, geometrical bodies and surfaces defining the object and to the architectural space. Likewise, relate projection modes and identify the elements of the architectural space or objects.
FUNDAMENTALS OF DRAWING	DV 100	Develop the perceptive capacity and skills in representing images to build a mental image and a graphic symbolization through the initial contact with the fundamental elements of the drawing and experience its basic materials, developing visual and psychomotor skills.

PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE I	ID	
DESIGN ELEMENTS II	DV 122	Apply visual language in compositions based on semantic aspects of image. Create messages with emphasis on meaning with the use of visual language elements. Create distinctions of compositional categories and apply that knowledge in configurations of visual information.
TYPESETTING	DV 132	Introduce the student to the general study of typographic signs, through training in a typographic-visual culture, to be able to carry out typographical projects, from concept to final implementation in an editorial project.
DRAWING	DV 101	Develop the ability to communicate ideas quickly and clearly by drawing.
PHOTOGRAPHY I	DV 102	Handle the basics of photography in black and white as a communication medium.
COGNITIVE PROCESSES	ED 220	Develop high-level cognitive skills by creating solutions to problems of significant and authentic design to promote knowledge building and learning.
SECOND LANGUAGE II	ID	
HISTORY OF VISUAL CULTURE	DV 263	Explore and analyze the history, authors and theories that constitute the conceptual equipment needed to build a critical look at the world of visual culture.
DESIGN ELEMENTS III	DV 223	Apply the visual language in compositions based on f semantics, syntax and pragmatic image. Differentiate compositional categories and use that knowledge in configurations of visual information.
EDITORIAL DESIGN	DV 233	Apply reticle systems to organize information in both print and electronic media.
ILLUSTRATION	DV 203	The student will develop the competence to illustrate ideas and reality using variety of techniques and materials.
THEORETICAL COMMUNICATION SCHOOLS	CO 215	Recognize the main features of the theoretical schools of communication distinguishing the authors, assumptions and empirical major studies developed by each of the schools.
SECOND LANGUAGE III	ID	
VISUAL SEMIOTICS	DV 254	Use the basic principles of semiotics image in the design of messages in print and broadcast media. Develop and apply objective criteria that enrich semiotic activity.

DESIGN FOR INTRODUCTION	**DV 224**	Develop projects to solve teaching, orientation and description problems, using an appropriate design methodology. Develop skills to diagnose situations that need to be solved through proposals that guide the user in precise instructions to carry out spatial displacement and process operation operations that require the application of a sequence of operational-cognitive decisions.
PHOTOGRAPHY II	**DV 205**	Apply the theoretical and practical bases in the course through dynamic and digital photographic projects and exercises similar large format photography.
APPLIED ILLUSTRATION	**DV 204**	Develop the concepts of illustration, applying the most appropriate materials and techniques to the objective and according to the stylistic line that the student develops; tackle visual communication projects that involve infographics, posters and advertisements, instructional and instructional materials
GENERAL STUDIES I	**EG**	
PRINTED IMAGE I: PRESS	**DV 315**	Know the production systems of printed materials that have paper and cardboard as their main support, such as magazines, brochures, newspapers, posters, postcards and packaging, among others. Efficiently solve complex printing and production problems for these materials as well as optimize their design and planning.
RHETORIC OF THE VISUAL	**DV 355**	Apply different rhetoric resources in its theoretical, practical and methodological field of visual communication aspects. Analyze and develop rich visual semantic and syntactic texts contained in each of the different visual genres.
DESIGN FOR EDUCATION	**DV 325**	Develop projects to solve visual information problems in education, using a design methodology. Develop the ability to diagnose situations that need to be solved through proposals that propose interaction operations for learning and that help the user to achieve the objectives set out in educational objectives
ANIMATION	**DV 306**	Develop techniques and concepts to generate animated sequences.
CONSUMER BEHAVIOR	**MK 215**	Analyze the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.
GENERAL STUDIES II	**EG**	

PRINTED IMAGE II: PRE-PRESS	DV 316	Know systems to produce printed materials and unconventional media formats. These materials range from the production of containers and cans to billboards, banners and stands. Students will be able to make decisions about the best use of design and production materials would be as different as metal, fabric, glass or canvas etc.
VISUAL NARRATIVE	DV 356	Use the set of concepts of visual narrative to interpret and explain the structure of communication processes in print and display. Distinguish in the narrative structures of dynamic media and traditional print media.
DESIGN FOR PROMOTION	DV 326	Develop projects to solve promotion and dissemination of products, events and services problems, using the design methodology.
INFORMATION ARCHITECTURE	DV 336	Develop logical skills to properly structure information nodes, planning processes and information flows. Practice and experiment with different models and structures to extract data efficiently, effectively and logically from the model of relational databases. Apply different tools for process flow charting and data structures.
THREE-DIMENSIONAL IMAGE	DV 307	Apply practical technical, theoretical and generate three-dimensional images still and moving
GENERAL STUDIES III	EG	
NETWORK DESIGN	DV 417	Apply concepts and parameters for design and build interactive documents online (WWW)
CONTEMPORARY DESIGN DISCOURSE SEMINAR	DV 467	Analyze the most representative design and application information to shape contemporary visual messages. Develop a personal position on the recurring themes in the construction of the disciplinary discourse.
DESIGN FOR ORGANIZATIONAL COMMUNICATION	DV 427	Develop projects to solve organizational communication problems, using design methodologies. Develop the ability to diagnose situations that need to be solved through programs of visual information that will enable the organization to carry out its internal and external processes so that the image strategy and support the organization.
AUDIO AND VIDEO PRODUCTION	DV 408	Apply methodological and technical aspects to create and edit images in video.

MANAGING DESIGN PROJECTS	DV 477	Develop and implement the conceptual and practical foundations to further develop their analytical skills and implementation capacity to develop their projects, to design a strategic marketing plan considering financing factors, facilitating their applicability in production.
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
GENERAL STUDIES IV	EG	
DESIGN FOR DIGITAL INTERACTION	DV 418	Translate data into structured information and organize content in a logical and coherent manner. Associate, select and prioritize information according to a mental model suitable for designing interfaces and generate positive experiences. Exploit interactive and multimedia resources to enhance the communication experience.
QUALITATIVE RESEARCH WORKSHOP (RECEPTION)	CO 486	Conduct empirical analysis of media reception from an ethnographic perspective. To do this, the student will become familiar with the most relevant and recent theoretical arguments about receiving media and its ideological and cultural implications, as well as ethnographic methods and techniques
DESIGN FOR SOCIAL COMMUNICATION	DV 428	Develop projects to solve social communication problems, using design methodologies. Develop the ability to diagnose situations that need to be solved through programs that enable visual information inputs to support the development and understanding among people.
PROFESSIONAL SEMINAR	DV 438	Practice their profession in real working conditions in design firms, educational institutions, government agencies and decentralized, private companies, etc. and apply the methods and techniques learned in their courses to solve assigned projects.
GRADUATION PROJECT I	DV 478	Identify the area, theme and type of project to develop their thesis and graphically design the conceptual constituent elements of their project and the relationships between them. Develop a methodological approach to be followed during the stages of implementation, evaluation and project results.
GENERAL STUDIES V (CO-CURRICULAR)	EG	

INTERDISCIPLINARY INTEGRATION	DV 429	Students will detect, analyze and solve complex visual information problems, favoring multi and interdisciplinary approaches integrating the knowledge and skills acquired during the studies in the realization of complex projects. Use design methodologies and develop skills to diagnose situations that need to be solved through visual information programs
GRADUATION PROJECT II	DV 479	Execute the planned project and implement the various documents required to present it. Likewise, argue the different decisions along the development of the project and test the results of the evaluation of responses projected.
ELECTIVES		
ADVANCED PHOTOGRAPHY PROJECTS	DV 481	Develop research methods and a photographic discourse that obey specific purposes of the design and personal style.
ADVANCED EDITORIAL DESIGN PROJECTS	DV 482	Apply theoretical and methodological knowledge to solve visual information problems in the editorial production advanced.
PROMOTION AND POSITIONING	MK 210	Identify promotion variables in the marketing mix. Understand the importance of positioning in marketing strategy in the company. Develop tools that enable the student to design campaigns positioning.
QUALITATIVE MARKET RESEARCH	MK 315	Understand the importance of consumer information. Develop strategies for using an information system. Develop guidelines for measuring the motivations and attitudes of consumers.
CULTURE THEORY	HU 120	Analyze the main cultural events of the twentieth century (ritual, music, writing, oral and audiovisual), with the main objective to establish, based especially syntactic features, a typology that group the different variants of such manifestations.
MUSEOGRAPHY	HA 205	Master the specific problems of museology.

LICENCIATURA IN ECONOMICS

PRINCIPLES OF ECONOMICS	EC 105	Develop the basic elements of economic analysis emphasizing its application to understanding contemporary economic phenomena.
GENERAL STUDIES I	EG	
GENERAL STUDIES II	EG	

THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
MICROECONOMICS I	EC 106	Familiarize the student with economic markets modeling techniques through graphic analysis and with the implications of different market structures for economic efficiency, as well as with the policies that could potentially correct distortions. Develop the economic intuition to understand the functioning of the markets as a result of the individual decisions of consumers and companies and to approach problems of microeconomics from a geometric point of view.
MACROECONOMICS I	EC 107	The student learns to identify the main problems and macroeconomic phenomena and develop the ability to analyze theoretically (with analytical and graphical techniques) and empirically (by analyzing basic data) critically.
MATHEMATICAL ANALYSIS FOR ECONOMICS I	MA 136	Pose, solve problems and interpret variable calculation requiring the use of the concepts of approximation, rate of change, extreme values, length, area and volume.
ECONOMIC LINEAR MODELS	EC 111	Acquaint the student with linear algebra, emphasizing its use as an analytical tool in the context of the economy as an applied science.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
MICROECONOMICS II	EC 206	Present and develop the elements concerning the analysis of the various functions and production decisions by a company in a competitive environment. Address differences between production decisions in the short and long term. Present a first approach to solving production problems from a business in uncertain situations.
MEXICAN ECONOMIC HISTORY	EC 220	Encourage the development of critical thinking skills through the analysis of the structure and the historical performance of the Mexican economy since the pre-Hispanic period until the revolution. Apply the tools of economic analysis to the understanding of the socio-economic history of Mexico.

MATHEMATICAL ANALYSIS FOR ECONOMICS II	MA 138	Define the concepts of indeterminate forms and improper integrals. Evaluate and interpret the improper integrals. Learn to pose and solve computational problems in several variables requiring the use of the concepts of approximation, rate of change, extreme values, area and volume, as well as interpret their results and solve problems of various variables used to economics: Maximum and minimums (with or without restrictions). Calculate and give the economic interpretation of the derivatives of first and second order Define the concept of number and figure out their possible convergence. Applying the concept of number to the economy.
GENERAL PROBABILITY	AE 250	Learn the basics of descriptive statistics and probability. Analyze graphically and numerically the distribution of a set of quantitative data. Use different discrete and continuous models to calculate probabilities of real phenomena. Know the role and importance of statistical inference.
GENERAL STUDIES III	EG	Know one of the most important techniques of economic analysis to formulate hypotheses rigorously: game theory. At the end of the course will have a very broad view of the various issues covered by this analytical tool, both in its conventional version and the evolutionary and experimental versions. Also, develop deductive skills of the student, some of these topics will be covered with high mathematical rigor pleasing, bearing in mind that the focus of the course is to cover the material for an applied economist solid analytical basis available.
SECOND LANGUAGE III	ID	The first general objective is to extend the ability of theoretical analysis developed by students in Macroeconomics I to situations more realistic and therefore more complicated, like those presented when we consider the open economy or incorporate expectations of economic agents in the analysis The second overall objective is to give students another perspective of the theory by studying the most important criticisms that have been made in recent times.
GAME THEORY	EC 209	The overall goal is for students to develop the ability to analyze dynamic economic processes. Developing this involves both learning to solve dynamic equations and systems of dynamic equations like learning to raise the economic and mathematical problems resulting equations being analyzed, all in both deterministic and stochastic contexts capacity.

MACROECONOMICS II	**EC 205**	Apply different statistical methods to make inferences about the unknown population parameters through suitable point estimators (indicating the error limit for the estimation) or through confidence intervals for large and small samples. Calculate the sample size suitable to have good estimates Perform hypothesis tests for any of the following parameters population: median and mean difference, ratio, proportion difference and variance calculation and interpret the significance level achieved by a test (p value) applying the analysis of variance (ANOVA) to fully implement designs aleatoriezazos chi-square test for contingency tables and perform different tests of hypotheses for qualitative data analysis.
DYNAMIC EQUATIONS	**EC 299**	Develop a broad view of the current economic problems in Mexico, from a long-term retrospective analysis. It seeks to establish a bridge between economic theories seen in other courses and the reality of the Mexican economy.
GENERAL STATISTICS	**AE 300**	Introduce the student in formal models of consumer behavior. Models dominate demand and consumer spending from the constrained optimization, also, the following theories: Election under conditions of uncertainty; Intertemporal choice; Alternative Consumer Behavior; Levels bounded rationality and satisfactory; Postmodernist theories the theories of the new consumerism consumption. Knowing the criticism of behavioral economics, the literature of economics of information, models seeking information, moral hazard and adverse selection.
MEXICAN ECONOMY	**EC 221**	Understand the main models of short-term macroeconomic analysis for the open economy. The course is divided into two parts. Part I focuses on the interactions between the asset market and the goods market, emphasizing the importance of the degree of international mobility of capital and exchange rate regime. In Part II asset market moves into second place and the analysis focuses on the real sector of the economy. The subject under study addresses the mechanisms by which a small economy can simultaneously achieve internal and external balance.
GENERAL STUDIES IV	**EG**	The student will know how productive organizations and how conflicts are resolved among the various interested parties. Also, entrepreneurship from economic and sociological edges are formed. a brief overview of the different theories of regulation to business will be done.

MICROECONOMICS III	**EC 318**	The student should know and be able to apply tools for exploratory data analysis, applying probabilistic basis of statistics. Students know and manage probability theory, its properties and laws as well as the various probability distributions and statistical tables. Another objective is to introduce the student to quadratic regression techniques minimum both univariate and multivariate as the properties of these estimators.
MACROECONOMICS III	**EC 319**	Students will learn the fundamentals of the theory of welfare that justify the intervention of the public sector in the economy. They will learn the basics of the theory of taxation and the influence of various government spending programs on the economic welfare of the population.
BUSINESS ECONOMICS	**EC 326**	Examine and analyze debt markets, the foreign exchange market, the capital market and financial products. Manage terminology, concepts and principles of investment and understand the theories of financial valuation and optimal valuation techniques. Also, understand the various types of securities and risk profiles and understand the basic terms of investment analysis.
ECONOMETRICS I	**EC 311**	Students will learn an alternative approach to the treatment of neoclassical economics. Once the basic concepts of sociology have been taught they will see how this contributes to understand socio-economic phenomena, and how tools and methodologies used by sociologists and economist's behavior and evolution can be used in a socioeconomic approach.
ECONOMICS IN THE PUBLIC SECTOR	**EC 328**	Introduce students to modern neo-institutionalist theory under the current defined as the "New Institutional Economics" and address their assumptions and fundamental issues. Understanding the origin and functions of external and internal institutions in a developing economy and explain the problem persistence and institutional change.
FINANCIAL ECONOMICS	**EC 329**	Learn the basics of the modern theory of economic growth which will reveal the causes of economic growth and the determinants of differences in living standards and growth rates across countries. Also, learn the main theoretical models that explain economic growth and existing still controversies about the determinants of the same.
ECONOMIC SOCIOLOGY	**EC 336**	The student should know and be able to apply tools for exploratory data analysis, applying probabilistic basis of statistics. Also, handle probability theory, its properties and laws and how the various probability distributions and statistical tables. It is also objective of the course introduce the student to regression

		techniques, both multivariate and univariate and the properties of these estimators.
INSTITUTIONAL ECONOMICS	**EC 323**	The course will seek the understanding of theoretical concepts through its application to the analysis of the most important recent developments in the international economy.
ECONOMIC GROWTH	**EC 349**	The aim of this course to study structuralist macroeconomic theory.
ECONOMETRICS II	**EC 335**	The student will be able to apply exploratory data analysis tools, applying the probabilistic bases of statistics. Likewise, handle the theory of probability, its properties and laws and how the different probability distributions and statistical tables. It is also the objective of the course to introduce the student to least-quadratic regression techniques, both univariate and multivariate, and the properties of these estimators.
INTERNATIONAL TRADE	**EC 324**	The overall objective of the course is to ensure that the student can understand and systematically analyze the different ideas, theories and economic doctrines that have emerged throughout the history of mankind.
SELECT TOPICS IN MACROECONOMICS	**EC 400**	Students will learn to raise and make inference econometric models using these Econometric packages (Stata and Eviews), learning to interpret the results of estimating models of increasing complexity both statistically and economically, under different assumptions and conditions. At the end of the course the students will critically evaluate the assumptions underlying econometric estimates and use the resulting assessment information to improve them.
SELECT TOPICS IN MICROECONOMICS	**EC 430**	The overall objective of the course is to introduce students to advanced theoretical debate on economic development, providing broad and in-depth theoretical framework based on the relevant literature and current information about the problem. It is postulated that at the end of the course the student can: Understand the various economic theories of development that allow explain the factors acting in a socio-economic structure in developing economies and explain the dynamic factors-domestic development. Finally, understand the role of the institutional framework and social capital in the development process.
HISTORY OF ECONOMIC THINKING	**EC 432**	Develop a social and educational project that provides solutions to problems in various sectors in the social context, participating in different organizations and strengthening the development of professional, social and civic skills.

ECONOMETRICS III	EC 454	In this course the student will know the advantages of social simulation as an analytical tool for understanding the socio-economic phenomena. In the course will study basic elements of various social simulation methods and fundamentals will be presented so that the student can schedule some simple models.
ECONOMIC DEVELOPMENT	EC 475	Students will learn the basics and international experience in public policies applied to different areas of the economy and society. In each of the topics the principles of analysis and economic evaluation learned in previous courses to the various policies discussed throughout the course apply.
SOCIAL RESPONSIBILITY	RS 498	The overall objective of the course is to introduce the student to the advanced discussion on the history of economic development.
SELECT TOPICS IN SIMULATION METHODS	EC 438	Students will complement their training to prepare a complete first draft of a final scientific research report.
SELECT TOPICS IN PUBLIC POLICY	EC 440	Handle deep analysis techniques applied to specific financial markets. Examine the theory of stochastic valuation and use techniques that allow modeling the behavior of financial assets such as interest rates, swaps, options Royals, among others.
HISTORY OF ECONOMIC DEVELOPMENT	EC 453	The student will develop the research project theses raised in Graduation Project I, under the supervision of a professor of the department.
GRADUATION PROJECT I	EC 495	Present and develop the elements concerning the analysis of the various functions and production decisions by a company in a competitive environment. Address differences between production decisions in the short and long term. Present a first approach to solving production problems from a business in uncertain situations.
SELECT TOPICS IN FINANCIAL SYSTEMS	EC 441	Encourage the development of critical thinking skills through the analysis of the structure and the historical performance of the Mexican economy since the pre-Hispanic period until the revolution of the twentieth century. Apply the tools of economic analysis to the understanding of the socio-economic history of Mexico.
GRADUATION PROJECT II	EC 497	The student will develop the thesis research project, under the supervision of a professor from the department.
ELECTIVES		

SECTOR ECONOMY	EC 455	Students will understand the process of price formation and income generation associated with activities (agricultural, regional, environmental, labor, educational, etc.) as well as the role that activity has in the economic development of a society. Students will become familiar with the concepts of the activity in question as a branch of economic analysis, both at the micro level and at the macro level and the importance for the preparation of development policies.
ECONOMIC VALUATION	EC 456	It is intended that the student know the methodology to carry out the evaluation of projects to achieve objectives related to development and profitability and obtain the tools to evaluate private and public projects, knowing how to distinguish the costs and benefits related to a project and know the methodologies appropriate to each case. Likewise, it is intended to be sensitive to the impact on investment projects of international organizations (IDB, World Bank, etc.), of micro and macroeconomic variables
WELFARE ECONOMICS	EC 457	The student will know the epistemological foundations of the criteria being used in the economy and dominate the welfare indicators used. Also, they will learn construction techniques of welfare indicators and know their properties and measurement bias and have the knowledge to identify the advantages and disadvantages of the use of welfare indicators for public policy.
MACROECONOMIC POLICIES	EC 466	The course is divided into two parts. The purpose of Part I is to study some basic models used in the analysis of monetary policy; These models focus on the transmission channels of monetary policy, as well as some important aspects of conducting policies of the central bank. This first part of the course will be based on presentations by the teacher (and the whole class discussion that may arise). Once armed with these models, the purpose of Part II is to review some recent empirical work on monetary policy mainly in Mexico, although it could also be considered for other countries. This second part will be based on presentations by students.
MARKETS AND ORGANIZATIONS	EC 467	In this course, students will learn the basics of corporate governance and organizational architecture. Also, they will see the relationship between financial system and corporate governance. institutional elements will be presented on the various existing organizational arrangements in the world, plus it will be debated the issue of corporate convergence. Finally sociological and neoclassical theories will be presented for explanation of family businesses, equity concentration and economic organization through economic groups.
INTRODUCTION TO LAW	DE 100	To ensure that the student has a frame of reference of legal norms, positive law, real and natural law, knowing the most representative theorists and philosophers of each current. The legislative process, the division of powers and the fundamental legal concepts are the subject of study.

COMMERCIAL LAW I	DE 250	Master commercial acts and their specialization, through knowledge of commercial science and mastering the rules applicable to merchants and the nature of legal relationships with those individuals and legal entities that are not engaged in commerce. In the same way, he will develop a critical version of Mexican legislation, its successes and deficiencies in corporate law, which he will master by practicing practical exercises and readings on companies.
COMMERCIAL LAW II	DE 253	Master the management, operation and system of exceptions that give life to one of the most important lawsuits in our legal system due to its frequent promotion, the Commercial Executive Trial. In the same way, develop the necessary skills for the assembly and transmission of credit titles, both causal and autonomous.
BANKING LAW	DE 345	The subject is aimed at the student being able to master the rules that regulate Financial Groups, especially Credit Institutions, being of vital importance that the student gets involved in the different credit instruments. The course also has the purpose of managing the operations that involve companies and individuals when they are related to any entity of the financial group.
TAX THEORY	DE 439	The course focuses on the indispensable knowledge of the main theories of tax law necessary for the application and management of taxes. The tax law currents of Spain, Italy and Mexico serve as a parameter in matters of great importance such as tax, the interpretation of the rules, tax authority, the Tax Legal Relationship, the Theory of the Taxable Fact, the Tax Obligation and Tax Principles.
MARKETING FUNDAMENTALS	MK 111	This is an introductory marketing course that covers the general aspects of this area. The definition and orientation of marketing is analyzed in detail at the beginning of the course to be used later in the development of marketing strategies, which include target market analysis and marketing mix.
CONSUMER BEHAVIOR	MK 215	The course introduces students to consumer behavior and its use in strategic marketing. It provides an understanding of the needs, motivations and social and cultural factors involved in consumer choice processes and the purchase of goods and services.
QUALITATIVE MARKET RESEARCH	MK 315	Understand the importance of having consumer information. Develop strategies to use information systems. Develop guidelines to measure consumer motivations and attitudes.
QUANTITATIVE MARKET RESEARCH	MK 317	Understand the importance of having the latest market information as a fundamental tool for marketing information systems. Know the different objectives that market research aims to achieve. Develop guidelines to measure consumer perceptions.

MULTIVARIABLE ANALYSIS	**MK 417**	Know the importance of using statistical techniques of multivariate analysis in decision-making. Knowing the different multivariate analysis techniques that allow the interpretation of results. Apply the most important and useful techniques of multivariate analysis.
FINANCIAL ENVIRONMENT IN BUSINESS	**FC 440**	Develop the ability to interpret so adequate information emanating from accounting and quantitative use it as a basis for decisions
FINANCIAL MANAGEMENT I	**FC 361**	Play the role of financial manager in companies; the different ways in which they operate; understand the basic tools of financial analysis and planning; evaluate financial performance by analyzing financial ratios and cash flow, asset structures and financial structure; understand the valuation of financial assets, the value of money over time, risk analysis and performance; the characteristics and ways to valuate fixed income securities and common shares in the domestic and international markets.
FINANCIAL MANAGEMENT II	**FC 362**	Analyze and argue the theory and practice of financial functions of determining the cost and capital structure and management of working capital. They analyze and develop methods, cases and problems on the topics of the cost of capital, leverage finance, theories of capital structure and dividend policy, management of cash, accounts receivable and inventories, as well as analysis of the sources of short-term financing.
INVESTMENT PROJECTS	**FC 463**	Identify, analyze and outline the tools and methods for evaluating investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk. Define and develop the assessment methods considering market factors, technical, administrative, legal, financial, economic and social. Giving greater emphasis to financial and economic study.
DERIVATIVE MARKETS	**FC 442**	At the end of the course the student will outline and manage various derivative instruments to manage financial risk of enterprises. Make hedging and speculative strategies and valuing each instrument determining its value at risk.
ORGANIZATIONAL BEHAVIOR	**BA 201**	Develop and understand the dynamics of people in organizations, to conduct themselves assertively, and thus contribute to organizational goals.
GLOBAL BUSINESS ENVIRONMENT	**NI 310**	This is an introductory course in the are of international business that will familiarize students with the international environment and the concepts, terms and theories that serve as bases for subsequent courses.
INFORMATION MANAGEMENT	**BA 230**	Assess the strategic importance of information technology in organizations and develop the skills to use it as support in operations, decision-making and competitive advantage of organizations.

OPERATIONS MANAGEMENT	**BA 350**	The student will acquire theoretical and practical knowledge of different operation managament areas. The student will master different areas of operations management and troubleshooting within a management context.
BUSINESS STRATEGIES	**BA 410**	Students will implement and develop the main conceptual, methodological and technological tools for organizational strategy.
INTRODUCTION TO POLITICAL SCIENCE	**PO 100**	The course provides a first approach to the study of political science. Forms the basis of other subjects of the Degree in International Relations.
POLITICAL PHILOSOPHY	**RI 114**	Through analysis of original sources, the course provides an overview and overview of the development of Western political thought, from the ancient Greeks to Karl Marx.
MODERN POLITICAL THINKING	**RI 115**	Increase and consolidate the student's knowledge of the texts of the classical theories in the courses of Political Science and International Relations are usually more empirical. Increase knowledge of students about the most important thinkers of his previous course of political philosophy has influenced the latest political philosophies and practices in existing political institutions. Deepening the knowledge students have of liberalism beyond a superficial level, raise awareness among students of the political importance of cultural particularity of many values that we take for granted and assumed as universal. Show students how to evaluate opposing arguments rigorously and fairly. Initiate, develop and expand the skills of critical thinking, independence of judgment, building plot and writing essays. You introduce students to the difficulties involved in the justification of political principles and institutional designs
CONTEMPORARY POLITICAL IDEAS	**PO 301**	This course helps promote and get a balanced political science through practical ideology based on ideas and knowledge. That is why this course is closely linked to those courses that focus on the practice of political science. Thus, students can go deeper into the knowledge of political practices and develop a thought or a different perspective
DEMOCRACY THEORIES	**PO 390**	The student acquires knowledge regarding the theory of political science concerned with national policy, including the causes and factors of democracy. also adding the process of States to become referred to as democracies
MEXICAN FOREIGN POLICY	**RI 261**	Review and assess the political, economic and foreign policy doctrine of Mexico and analyze the changes experienced since independence to date.
INTERNATIONAL NEGOTIATION	**RI 415**	Analyze the structure of conflicts and the various forms of peaceful resolution. Analyze the fundamental concepts of planning, strategy and negotiation. Develop negotiating skills, based on the search for viable alternatives. Know the Mexican

		tradition of international negotiation to adapt it to the new era of the international community.
LATIN AMERICA FOREIGN POLICY SEMINAR	**RI 424**	The second section is related to the foreign policy of Latin American countries (Mexico and Central America will be omitted since the department offers specific courses on them). The countries under study are grouped by regional themes. First, the foreign policies of the two main powers in the Río de la Plata basin (Argentina and Brazil) will be studied and analyzed, then the two most important in the South Pacific (Chile and Peru), and finally the two main countries in the Caribbean basin (Venezuela and Cuba).
UNITED STATES FOREIGN POLICY SEMINAR	**RI 435**	The course is designed to provide the student with a comprehensive vision of contemporary United States foreign policy by studying the foundations of the international conduct of the United States, its role in the world, and the challenges it faces.
EUROPEAN UNION	**RI 411**	Study the contemporary development of the main Western European countries and the process of regional integration. Likewise, it analyzes the political and economic bodies that govern the European Community and its relations with the outside world.
PERSONALITY THEORIES	**PS 215**	At the end of the course the student will be able to: define what is personality and what is a theory of personality; identify the six domains that address the study of personality; recognize the main basic constructs and postulates of each domain, as well as the authors who developed them; It will identify the investigations and applications of each domain.
MOTIVATION AND EMOTION	**PS 212**	The purpose of this is to study the importance of the knowledge of the motives and emotions that originate and move human behavior represents for the modern psychologist. The student will know what is understood by motivation and emotion. The student will know the main theories about motivation and emotion. The student will know the main intrinsic and extrinsic motivations that govern behavior. The student will know the main emotions that the human being presents. The student will be able to analyze various alterations in motivation and their repercussions on health.
SOCIAL PSYCHOLOGY I	**PS 304**	Know the bases and antecedents of Social Psychology, as well as its methodology used. Identify the factors and processes that intervene in social thought and the construction of the individual's reality, as well as the processes of interaction and social influence between social groups. Know the bases of interpersonal attraction.

SOCIAL PSYCHOLOGY II	PS 308	Give the student knowledge, description and discussion of models and studies on social relationships and their social impact. Know the main cultural studies in Social Psychology. Know and understand the Psychology of collective behaviors related to the environment and extreme situations.
PSYCHOMETRY	PS 322	Give the student theoretical foundations of psychological measurement. Give the student the basic and necessary principles for the development of psychological tests. Practice of the development of psychological tests. That the student knows the use of different types of psychological tests and their applications.

LICENCIATURA IN NURSING

HISTORY OF NURSING	EF 101	Identify nursing through its history and evolution until today, in which the student integrates knowledge in holistic care in the exercise of their profession.
NURSING PROPEDEUTICS	EF 102	Apply the techniques of nursing holistic care of humans. Develop theoretical and practical procedures acquired in the classroom lab correctly for the comprehensive care of the healthy individual and ill.
FUNDAMENTALS OF NURSING I	EF 103	Meet the basic needs of the human being using the process nursing care and guiding their professional actions for the individual to develop and reach their maximum capacity for self care.
GENERAL STUDIES I	EG	
ANATOMY AND HUMAN PHYSIOLOGY I	EF 104	Understand the structure and normal functioning of the human organism, as a basis for the acquisition of knowledge identifying various diseases in the individual.
NUTRITION AND METABOLISM	MD135	Understand the importance of food as suppliers of nutrients and identify how they are assimilated by the human body, its physiological and metabolic function; to diagnose prevention and treatment of disorders nurturing healthy or sick individual.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
ANATOMY AND HUMAN PHYSIOLOGY II	EF 105	Analyze the structure and normal functioning of the human organism to identify diseases in the individual, the different apparatuses and systems of the body.

SURGICAL PATHOLOGY	EF 106	Analyze and understand the structure and operation of surgical pathologies of the human body and diagnose the disease in the individual.
PUBLIC HEALTH	EF 107	Prevention and health promotion, specific protection and rehabilitation of healthy or sick individual as a working tool using the scientific method.
FUNDAMENTALS OF NURSING II	EF 108	Attend the basic needs of human beings by diagnosing the nursing care process of the individual.
FUNDAMENTALS LAB	EF 109	Develop practical ability through procedures and reflection in simulated clinical practice of the Nursing Laboratory, for professional work in the healthy or sick individual.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
CLINICAL PRACTICE I	EF 110	Demonstrate in clinical practice theoretical knowledge; Also provide and implement a plan of nursing care and personalized with a comprehensive ethical vision in the healthy or sick individual.
MICROBIOLOGY AND PARASITOLOGY	MD 112	Identify the most common parasites in medical practice, describing their life cycle, morphology, and identify micro-organisms (bacteria, viruses and fungi), to implement a plan of care according to the individual's disease.
SURGICAL MEDICAL NURSING	EF 201	Analyze the pathophysiological mechanisms of disease, identifying the clinical manifestations of each, applying a care plan according to the patient's needs that can be altered because of different pathological processes and potential complications.
HEALTH RESEARCH	MD 313	Acquire knowledge on the methodology of research on scientific research studies using qualitative and quantitative method through observation, experimentation, using as tool epidemiology and biostatistics for real research in solving health problems.
GENERAL STUDIES II	EG	
NURSING IN PUBLIC HEALTH	EF202	Implement a community program promoting health through prevention, protection and rehabilitation of specific healthy or sick individual to apply nursing care in public health to the population.
SECOND LANGUAGE I	ID	

CLINICAL PRACTICE II	EF03	Analyze the pathophysiological mechanisms of diseases, implementing a care plan describing the clinical manifestations of each, as well as human needs of different pathological processes and potential complications. Apply theoretical knowledge through their direct involvement with the community and care units corresponding to the first level to address health problems making a diagnosis of community health.
PEDIATRIC PATHOLOGY	EF 204	Master the fundamentals of valuation of the pediatric patient. Analyze functional alterations that occur in pediatric disease; implement a nursing care plan focused on the diagnosis and appropriate treatment.
HEALTH ILLNESS PROCESS	EF 205	Identify the theoretical, methodological and philosophical explaination of the health disease in the Mexican population, implement a care plan to attend an individual and groups according to priority health programs.
OBSTETRICS I	EF 206	Apply theoretical and practical knowledge in obstetrics to implement a plan of care for pregnant women at low risk and to detect high-risk pregnancy for proper channeling to different levels of care.
NURSING IN SPECIALTIES	EF 207	Act professionally in specialty areas through practice and understanding of health care, through the interpretation of human responses to improve the quality of life using a care plan the nursing process.
PEDIATRICS AND OBSTETRICS LAB	EF 208	Apply theoretical knowledge in simulated clinical laboratory practice, acquiring and developing attitudes and skills for the profession.
SECOND LANGUAGE II	ID	
CLINICAL PRACTICE III	EF 209	Provide reproductive health care services, as well as for the newborn, incorporating the risk approach. Likewise, develop and carry out a care plan according to the diagnosis and treatment aimed at the reproductive health of women and children.
MEDICAL PSYCHOLOGY	MD 230	Analyze the origin, development and the principles underlying medical psychology as an important part of the doctor-patient relationship and the relationship with its organizational problems.
NURSING BIOETHICS	EF 301	Understand the ethical values and legal rules that may apply to situations related to the area of health and life. Analyze a clinical case in practice nurse based on the rights of people in their care.

PEDIATRIC NURSING	EF 302	Develop their knowledge in different procedures making a care plan for the pediatric patient who is hospitalized and thus provide optimal and timely care, applying the nursing process.
OBSTETRICS II	EF 303	Develop theoretical and practical knowledge regarding risk factors and health damage that predispose the biopsychosocial disorders, diagnostic methods and treatments preventive and therapeutic applied to situations that complicate the process of human reproduction for the purpose of to develop a clinical judgment that allows to provide nursing care during the reproductive process and the high-risk newborn, taking as the methodology of the nursing care process and risk approach.
GENERAL STUDIES II	EG	
SECOND LANGUAGE III	ID	
CLINICAL PRACTICE IV	EF 304	Provide nursing care to the population that requires services of reproductive health care. And the implementation of a plan of nursing care for women in the reproductive stage and newborn, incorporating risk approach
PSYCHIATRIC PATHOLOGIES	EF 305	Analyze and understand the pathologies in psychiatric and clinical issues of various diagnoses and treatments implementing a plan of care specific disease
GERIATRICS	EF306	Analyze pathologies in geriatrics and clinical issues of various diagnoses and treatments implementing a care plan for chronic degenerative diseases.
PRE-HOSPITAL MEDICINE NURSING	EF 307	Understand the hospital area to implement a care plan for adult and pediatric patients in emergency situations and make the initial handling.
SEXUAL EDUCATION	EF 308	Analyze the different aspects of human sexuality, making a care plan of various pathologies of sexually transmitted diseases in adolescents and adults.
TEACHING IN NURSING	EF 309	Analyze health education as an intentional social process, implement a plan pedagogical teaching strategies to guide nursing interventions in the person or group
CLINICAL PRACTICE V	EF 310	Apply nursing knowledge in implementing a plan area prehospital care adult and pediatric patient in clinical practice and in emergency situations; analyze educational processes performed in educational institutions or health and applies innovative proposals for training and development of nurses.

PSYCHIATRIC NURSING	EF 401	Identify human needs to formulate a plan of nursing care, considering each person individually and fully applying the principles and procedures of psychiatric nursing, making apply them in his person and their relationships in general.
GERIATRIC NURSING	EF 402	Acquire and integrate knowledge of nursing in the hospital area that will allow give you a holistic care to the elderly patient based on nursing care through the nursing process
GENERAL STUDIES III	EG	
WORK MEDICINE	MD 315	Identify risk factors for health from performing work; diagnose pathological manifestations result from the performance of the various work activities; appropriate preventive measures and meet the current labor legislation
GRADUATION PROJECT I	EF 498	Integrate theoretical and practical knowledge acquired during the degree, to investigate a particular problem in health.
CLINICAL PRACTICE VI	EF 403	Identify human needs for a nursing care plan, considering each person individually and fully applying the principles and procedures of psychiatric nursing and geriatrics, making apply them in his person and their relationships in general.
NURSING SERVICES MANAGEMENT	EF 404	Analyze the elements of the administration of care and services as well as those relating to quality assurance in care is given in health institutions; implementing an administrative improvement plan.
TANATOLOGY NURSING	EF 405	Understand thanatology as the purpose of integrating a vision about death and loss management as natural processes, which start from the birth itself, until the close of the cycle of life and death.
GENERAL STUDIES	EG	
NURSING IN INDUSTRIAL AREA	EF406	Apply nursing knowledge in the industrial area that allow you to implement a program in holistic health care for adult and pediatric patients. Detect situations of occupational health and make the initial handling of the same.
GRADUATION PROJECT II	EF 499	Validate the ability to integrate theoretical and practical knowledge acquired by the student throughout the degree, to carry out an investigation in health in nursing.
CLINICAL PRACTICE VII	EF 407	Integrate a program management and care services within healthcare organizations and industrial area as well as those relating to quality assurance in the care that is given in health.
GENERAL STUDIES I		

INFORMATION CULTURE	BC110	Reflect and analyze the impact of information and knowledge today, developing habits and skills needed for continuous updating through access, validation, production and use of information as an instrument for research and making decisions within their academic career and later professional
GENERAL STUDIES II		
IMAGENOLOGY	MD 333	Master the fundamentals of knowledge of imaging. Also, analyze the functional alterations that occur in disease and use scientific reasoning and a critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation
GENERAL STUDIES III		
SOCIAL PSYCHOLOGY I	PS 304	Identify the factors and processes involved in social thought and the construction of the reality of the individual and implement a program according to the processes of interaction and social influence among social groups.
GENERAL STUDIES IV		
QUALITY IN HEALTH SERVICES	MD 311	Develop a marketing strategies and quality program in health care companies and organizations.
GENERAL STUDIES V		
PHOTOGRAPHIC COMPOSITION WORKSHOP	TL 100	Handle the camera as a tool of expression, to show their skills and photographic sensitivity.
HUMAN DEVELOPMENT AND RISK BEHAVIOR WORKSHOP	TL 300	Evaluate some risk behaviors: sexuality, eating disorders and drugs that threaten their physical health, determining factors of protection against them. You will recognize the importance of emotional life, human development and life planning as elements of protection against risk behaviors.
CULTURAL ENTERTAINMENT WORKSHOP	TL 120	Know and appreciate different cultural manifestations through activities that will evaluate them creatively and critically culture, a space for participation diverse and plural
LEARNING STRATEGIES WORKSHOP	TL 310	Develop skills for meaningful learning.

LICENCIATURA IN FINANCE AND ACCOUNTING

ACCOUNTING PERSPECTIVES	FC 111	Analyze the constant changes brought about by the development of public accounting. Interpret economic factors and the nature of financial and accounting operations to provide a mechanism for reasoning and the development of critical thinking regarding the validity of the application of rules, principles and specific criteria in various aspects of the profession, and the ability to develop attitudes of honesty and ethics that are necessary in their professional practice.
BUSINESS MATH	MA 117	Solve economic, administrative, accounting, and social sciences problems, efficiently using set algebra in solving problems of their professional area. Also, graph functions related to current business problems. Use algebra concepts to graph functions related to current business problems.
SECOND LANGUAGE I	ID	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	
FINANCIAL ACCOUNTING	FC 112	Analyze the different types of organizations and different financial statements to make proper decisions.
INTERMEDIATE ACCOUNTING I	FC 113	Interpret and apply the basic theory of accounting under the MIPA, the FASB and IASB to support and master the theoretical and practical knowledge, which supports reasoning and validate the application of rules and regulations of the different elements Information financial, for solving specific problems, within the conomic entities.
PRINCIPLES OF MICROECONOMICS	EC 201	Master the basics of microeconomic analysis, identifying their use and representing contemporary economic phenomena.
SECOND LANGUAGE II	ID	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.

BUSINESS CALCULUS	**MA135**	Analyze and use differential and integral calculus techniques to solve classical optimization and other economic-administrative, accounting and social sciences problems for one or more variable functions.
BUSINESS FUNDAMENTALS	**BA111**	Analyze administrative process theory, defining its strengths and weaknesses, while studying theoretical alternatives that can solve the differences.
INTERMEDIATE ACCOUNTING II	**FC 214**	Analyze, apply and interpret the conceptual framework and practice of all liability accounts and capital in a financial statement, through the identification of principles, evaluation rules, procedures and rules to present the balance sheet and the statement of changes in financial situation and determine their qualitative characteristics and guidelines for valuation of cash and working capital.
STATISTICAL ANALYSIS	**AE 242**	Analyze and interpret data through extraction, recognition, classification, description, presentation, and inference based on theoretical and practical foundations to understand, use, compare and reorganize information.
SECOND LANGUAGE III	**ID**	
PRINCIPLES OF MACROECONOMICS	**EC 202**	Master the basics of macroeconomic analysis, identifying their use in describing contemporary economic phenomena.
GENERAL STUDIES II	**EG**	
ORGANIZATIONAL BEHAVIOR	**BA 201**	Develop and understand the dynamics of people in organizations, to conduct themselves assertively, and thus contribute to organizational goals.
ACCOUNTING AND FINANCIAL APPLICATIONS	**FC 223**	Develop projects within the accounting area – financial support processes information for management decision making, supported by computational tools necessary.
FORECASTING METHODS	**AE 265**	Master conceptual and operational management models and multiple linear regressions. Identify the type of forecasting model used to solve problems in companies, applying the best forecasting method for real problem. Design and use computer software using templates.
MARKETING FUNDAMENTALS	**MK 111**	Analyze marketing elements in detail to develop marketing strategies, which include the target market analysis and marketing mix.

HUMAN RESOURCES MANAGEMENT	BA 211	Analyze and apply the most important HR concepts and functions within organizations
COST ACCOUNTING	FC 231	Apply different methods to cost products and services, interpreting the resulting financial information to make decisions.
CORPORATE BUSINESS REGULATIONS	FC 280	Identify and outline the civil and commercial legal order to meet the needs of analysis presented by the company. List and describe the different social obligations through the collection and use of comprehensive knowledge of legal regulations and concrete to solve the problems of enterprises in developing business nationally and internationally.
MANAGEMENT		
GENERAL STUDIES III	EG	
GENERAL STUDIES IV	EG	
GENERAL STUDIES V (CO-CURRICULAR)	EG	
MANAGERIAL ACCOUNTING	FC 333	Interpret and use the information generated by cost accounting for proper planning and control of a company.
LABOR LAW	DE 362	Analyze the history of the right to work and its relevance to the formation of the national labor system to meet the standard that governs it and apply it in labor relations, both individual and collective. Solve problems and develop labor law and union contractual documents.
AUDITING REGULATIONS AND PROCEDURES	FC 341	Analyze work papers to develop the planning, implementation and monitoring of an audit, based on principles, standards and generally accepted procedures.
BUSINESS INTELLIGENCE	FC 344	Examine alternative models for management decision making and managing knowledge models and alignment with business processes and needs.

FINANCIAL MANAGEMENT I	**FC 361**	Play the role of financial manager in companies; the different ways in which they operate; understand the basic tools of financial analysis and planning; evaluate financial performance by analyzing financial ratios and cash flow, asset structures and financial structure; understand the valuation of financial assets, the value of money over time, risk analysis and performance; the characteristics and ways to valuate fixed income securities and common shares in the domestic and international markets.
BUSINESS STRATEGIES	**BA 410**	Implement and develop the main conceptual, methodological and technological tools for organizational strategy.
TAX LAW I	**FC 351**	Identify the importance of tax law within the tax administration as substantive role within a state, describing an overview of taxation, specifying non-tax and extraordinary income, Fiscal Coordination, the Public Spending, Tax Code the Federation and its regulations, the Administrative System in Mexico, the Law of the Tax Administration Service, the Organic Law of the Tax Court of the Federation, Federal Law of Administrative Procedure, Amparo in Tax Matters; Defenses against the Federal, State and Municipal.
INTERNAL AUDITING	**FC 345**	Plan, execute and monitor a special audit, based on principles, standards and generally accepted procedures.
FINANCIAL ADMINISTRATION II	**FC 362**	Analyze and argue the theory and practice of financial functions of determining the cost and capital structure and management of working capital. Analyze and develop methods, cases and problems on the topics of the cost of capital, financial leverage, theories of capital structure and dividend policy, management of cash, accounts receivable and inventories as well as the analysis of the sources of short-term financing.
DECISION MODELS I	**AE 270**	Master the conceptual management of linear programming models. Identify the type of linear programming model used for solving problems in industry and enterprise solving real problems of linear programming in marketing, finance, production management, using packages computer in the analysis and interpretation of results.

PAYROLL CONTRIBUTIONS	**FC 454**	Identify, describe and use Social Security law its regulations and other regulations of the Institute of the National Housing Fund for Workers of the System of Saving for Retirement its Regulations Rules and Circulars of the Income Tax and Tax state payroll at national level, and describe a perspective of social security internationally.
MEXICAN ECONOMY ANALYSIS	**EC 221**	Analyze the current economic problems of Mexico and model a long-term retrospective analysis. Develop a bridge between economic theories seen in other courses and the reality of the Mexican economy.
TAX LAW II	**FC 452**	Identify, describe and use the Law of the Income Tax on par with that of the tax on the aggregate and the tax value to the asset in the development of business operations.
INVESTMENT PROJECTS	**FC 463**	Identify, analyze and outline the tools and methods for evaluating investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk. Define and develop the assessment methods considering market factors, technical, administrative, legal, financial, economic and social. Giving greater emphasis to financial and economic study.
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
FINANCIAL INFORMATION REGULATIONS	**FC 425**	Analyze and apply the related current regulations with the preparation of financial information, both on the concepts of valuation, presentation and disclosure as its relationship within the international arena, as well as transparency, objectivity or reliability of the information emanating from accounting.
FOREIGN TRADE AND INTERNATIONAL TREATIES	**FC 458**	Identify, describe and use laws VAT, Foreign Trade, Customs and the General Taxes of Import and Export in conducting operations import and export of goods and services as well as the general framework of international trade agreements of Mexico with the rest of the world.

DECISION SUPPORT SYSTEMS	**FC 426**	Analyze the role of systems for decision support as a support to the process of making financial decisions, by studying concepts, research and development of cases and projects.
GRADUATION PROJECT I	**FC 498**	Describe, understand and apply what is scientific research and what is the point in the development of modern science.
SPECIAL AND NON-LUCRATIVE ACCOUNTING	**FC 437**	Know the accounting treatment given to non-profit organizations, government, and companies with special orders that require specific accounting process.
FINANCE CASES	**FC 428**	Analyze real business world situations, primarily in the financial area. Analyze and propose a course of action. In most cases you can have different alternative courses of action that could be taken in each situation, the solution requires the application of models and techniques studied in the main courses of the finance area.
TAX SEMINAR	**FC 481**	Update, identify, describe and use any changes that exist in the Laws of the tax on the aggregate income tax and tax value of the asset and its Regulations and especially its relation to Omnibus Tax of the year and its annexes.
INTEGRAL RISK ANALYSIS	**FC 429**	Identify risk in a company and develop strategies to minimize it at a reasonable level considering the benefit that the company wishes to obtain and effort you are willing to do.
GRADUATION PROJECT II	**FC 499**	Prepare and present their thesis work with professional quality and the requirements for it.

INTERNATIONAL FINANCE MANAGEMENT	FC 464	Understand the financial management of international businesses, understanding how international financial markets work, emphasizing the forex market, understanding various derivative financial instruments and their use for hedging and speculation. Understand mechanisms used in the international financial market to make international investments or obtain international financing to be able to minimize risk and maximize the profitability of international companies.
EXTERNAL CONSULTING		
GENERAL STUDIES III	EG	
GENERAL STUDIES IV	EG	
GENERAL STUDIES V (CO-CURRICULAR)	EG	
EXTERNAL CONSULTING I	FC 371	Develop the perspective of the role of the consultant and skills required for a successful consultancy, understood as the generation of a positive relationship between the client and the consultant, as well as achieving acceptance of the recommendations delivered a consultant to his client.
LABOR LAW	DE 362	Analyze the history of the right to work and its relevance to the formation of the national labor system to meet the standard that governs it and apply it in labor relations, both individual and collective. Solve problems and develop labor law and union contractual documents.
AUDITING REGULATIONS AND PROCEDURES	FC 341	Analyze and work to develop the planning, implementation and monitoring of an audit, based on principles, standards and generally accepted procedures.
ANALYSIS AND DESIGN OF INFORMATION SYSTEMS	FC 324	Analyze the fundamentals of information systems, their development methodology, the concepts of tools and techniques currently used for development, and the role of systems for decision support as a support for corporations to process managerial decision making.

FINANCIAL MANAGEMENT I	**FC 361**	Play the role of financial manager in companies; the different ways in which they operate; understand the basic tools of financial analysis and planning; evaluate financial performance by analyzing financial ratios and cash flow, asset structures and financial structure; understand the valuation of financial assets, the value of money over time, risk analysis and performance; the characteristics and ways to valuate fixed income securities and common shares in the domestic and international markets.
BUSINESS STRATEGIES	**BA 410**	Implement and develop the main conceptual, methodological and technological tools for organizational strategy.
TAX LEGISLATION I	**FC 351**	Identify the importance of tax law within the tax administration as substantive role within a state, describing an overview of taxation, specifying non-tax and extraordinary income, Fiscal Coordination, the Public Spending, Tax Code the Federation and its regulations, the Administrative System in Mexico, the Law of the Tax Administration Service, the Organic Law of the Tax Court of the Federation, Federal Law of Administrative Procedure, Amparo in Tax Matters; Defenses against the Federal, State and Municipal.
COMPUTERIZED CORPORATE AUDITING	**FC 342**	Apply techniques and procedures computerized check balances, electronic worksheets develop and integrate such documentation worksheets from the viewpoint of internal and external audit to report the results of both.

FINANCIAL MANAGEMENT II	**FC 362**	Analyze and argue the theory and practice of financial functions of determining the cost and capital structure and management of working capital. Analyze and develop methods, cases and problems on the topics of the cost of capital, financial leverage, theories of capital structure and dividend policy, management of cash, accounts receivable and inventories as well as the analysis of the sources of short-term financing.
EXTERNAL CONSULTING II	**FC 472**	Develop the ability to analyze and interpret data with features and fundamental skills that make an external consultant. Understand that, as an integral top management of companies, external advisor plays a key role in the smooth running of the company
PAYROLL CONTRIBUTIONS	**FC 454**	Identify, describe and use laws Social Security its regulations and other regulations of the Institute of the National Housing Fund for Workers of the System of Saving for Retirement its Regulations Rules and Circulars of the Income Tax and Tax state payroll at national level, and describe a perspective of social security internationally.
OPINIONS	**FC 455**	Analyze the different opinions from those to be submitted to various authorities at national level and identify the characteristics of the opinion internationally.
TAX LAW II	**FC 452**	Identify, describe and use the Law of the Income Tax on par with that of the tax on the aggregate and the tax value to the asset in the development of business operations.
INVESTMENT PROJECTS	**FC 463**	Identify, analyze and outline the tools and methods for evaluating investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk. Define and develop the assessment methods considering market factors, technical, administrative, legal, financial, economic and social. Giving greater emphasis to financial and economic study.

SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
FINANCIAL INFORMATION REGULATIONS	FC 425	Analyze and apply the related current regulations with the preparation of financial information, both on the concepts of valuation, presentation and disclosure as its relationship within the international arena, as well as transparency, objectivity or reliability of the information emanating from accounting.
FOREIGN TRADE AND INTERNATIONAL TREATIES	FC 458	Identify, describe and use VAT, Foreign Trade, Customs and the General Taxes of Import and Export laws in conducting operations import and export of goods and services as well as the general framework of international trade agreements of Mexico with the rest of the world.
DECISION SUPPORT SYSTEMS	FC 426	Analyze the role of systems for decision support as a support to the process of making financial decisions, by studying concepts, research and development of cases and projects.
GRADUATION PROJECT I	FC 498	Describe, understand and apply what is scientific research and what is the point in the development of modern science.
SPECIAL AND NON-LUCRATIVE ACCOUNTING	FC 437	Know the accounting treatment given to non-profit organizations, government, and companies with special orders that require specific accounting process.
FINANCE CASES	FC 428	Analyze real situations of the business world, primarily in the financial area. Analyze and propose a course of action. In most cases you can have different alternative courses of action that could be taken in each situation, the solution requires the application of models and techniques studied in the main courses of the finance area.

TAX SEMINAR	FC 481	Update, identify, describe and use any changes that exist in the Laws of the tax on the aggregate income tax and tax value of the asset and its Regulations and especially its relation to Omnibus Tax of the year and its annexes.
INTEGRAL RISK ANALYSIS	FC 429	Identify risk in a company and develop strategies to minimize it at a reasonable level considering the benefit that the company wishes to obtain and effort you are willing to do.
GRADUATION PROJECT II	FC 499	Prepare and present their thesis work with professional quality and the requirements for it.
COMPANY VALUATION	FC 430	Determine the value of the company as a reference in combination business operations, acquisitions, merger or division.
ELECTIVES		
ADVANCED MANAGERIAL AND COST SYSTEMS	FC 335	Analyze, apply and master more advanced techniques cost systems used in enterprises.
FINANCIAL ENVIRONMENT IN COMPANIES	FC 440	Develop the ability to interpret so adequate information emanating from accounting and quantitative use it as a basis for decisions
E-BUSINESS	FC 441	Create a conceptual framework of technology and Electronic Business elements that prepare students to develop e-business strategies involving processes and infrastructure of the company.
DERIVATIVE MARKETS	FC 442	Understand and manage the various derivative instruments to manage financial risk of enterprises. Make hedging and speculative strategies and valuing each instrument determining its value at risk.
INTERNATIONAL ECONOMICS	EC 314	Analyze the main models to determine the level and composition of international trade, and cunderstand the microeconomic effects of major trade policy instruments. Demonstrate the basic plan to determine short-term output in an economy with perfect capital mobility and a flexible exchange rate, identifying the macroeconomic effects of monetary and fiscal policies.
PORTFOLIO MANAGEMENT	EC 385	Master investment portfolios techniques to diversify them and optimize performance parameters versus expected risk.
VALUE MARKET	EC 435	Master the various markets in which financial assets are traded. Experiment with the characteristics of the values and generate their prices, expected returns and benefits.

LICENCIATURA IN PHYSICS

INTRODUCTION TO MATHEMATICAL THINKING	**MO 110**	Use logical reasoning methods in the analysis and troubleshooting. Address problems of mathematics as a geometric system and efficiently operate the algebra of propositions and set algebra in solving mathematical problems of their own profession. Handle the concepts of group, ring and field, mastering the conceptual and operational management relations and functions and at the same time addressing the mathematical problems considering the supreme axiom in real numbers.
ANALYTIC GEOMETRY	**MT 118**	Calculate lengths and angles using vectors, equations of conic sections. Change and coordinate transform equations using translation and rotation shafts. Interpret and obtain equations of lines, planes and spheres using vectors and calculating equations of curves and surfaces of revolution.
FUNDAMENTALS OF EXPERIMENTAL PHYSICS	**FS 100**	Apply and practice the experimental method of physics optical phenomena. Report the results of measurements on a given physical model in a professional manner.
GENERAL STUDIES I	**EG**	
SECOND LANGUAGE I	**ID**	
THOUGHT AND LANGUAGE	**PC 114**	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
CALCULUS I	**MT 115**	Use the mathematical induction method to prove properties and identities involving natural numbers. Use inequalities to analyze the behavior of functions. Calculate limits of functions and sequences through the use and understanding of the concept of limits. Apply the derivative as an instrument in the planning and problem solving. Sketching the graphs of functions using the concepts of limits, monotony, extreme and concavity. Handle the concept of function approximation and order of magnitude. Select and deploy algorithms and computer to visualize and evaluate functions, limits and derivatives.
PHYSICS, ADVENTURE IN THINKING	**FS 126**	Describe the main ideas that have motivated the development of physics. Analyzing resulting theories, its scope and limitations.

ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
CALCULUS II	MT 210	Calculate integrals and approximations of comprehensive and apply to the calculation of areas and volumes. Using trigonometric functions, exponential function and logarithm for troubleshooting. Identify whether a sequence of functions converges point or uniformly. Calculate the Taylor polynomial of a function and estimating its residue. Get the Taylor series of a function and calculate its radius of convergence.
LINEAR ALGEBRA	MT 219	Recognize the concepts of vector space, linear transformation matrix determinant, eigenvalue and similarity transformation. Using these concepts and the properties of each element defined by them to describe matrices using linear transformations and base changes. Operate the determinants of square matrices, and cofactors those elements, to calculate the same. Get the eigenvalues and eigenvectors of square matrices. Basing and operate linear functional concepts, and quadratic bilinear form, orthogonal and unitary transformation. Use these concepts and the properties of each element defined by them to determine the normal forms of matrices. Apply the tools of linear algebra to various problems of geometry, linear programming and differential equations.
EXPERIMENTAL MECHANICS	FS 200	Explain and apply various concepts of Experimental Mechanics such as momentum or momentum and kinetic and potential energy torca energy and conservation of angular momentum or angular movement. Conduct pilot exercises to determine: movement with uniform velocity through measurements. Distinguish between mass and weight and identify the frictional force.
MECHANICS	FS 220	Identify the fundamental concepts of classical mechanics, such as statics, linear and angular dynamics, work, energy, power, momentum, momentum and balance. Solve exercises related to these concepts and translate them into mathematical language to compare them with everyday situations.
DATA STRUCTURE I	IS 117	Design and program with object-oriented software. Apply design techniques and notation UML (Unified Modeling Language) and Java programming language. Manage the main mechanisms for creating, maintaining and search for information on static data structures.

SECOND LANGUAGE III	**ID**	
CALCULUS III	**MT 211**	Distinguish whether a subset of Rn is open, closed, bounded, compact or connected. Mayorar, minorar and approximate functions of several variables and apply these concepts to calculate limits of functions in Rn. Identify whether a function of several variables is bounded, continuous, uniformly continuous and if it reaches its extreme values. Obtaining sets level multivariable functions and in the case of two variables, use to outline graphs of the corresponding functions. Outline graphic and sets level and approximate extreme values using a computer. Obtain and interpret the best linear approximation of a function of several variables. Computing derivatives using chain rule. Approximate functions with polynomials Taylor and estimate their waste. Solving optimization problems using computational techniques in several variables. Use theorems inverse function and implicit function to decide whether a system of nonlinear equations is solvable.
ORDINARY DIFFERENTIAL EQUATIONS	**MT 261**	Get the general solution of linear equations of first order differential equations exact, homogeneous, Bernoulli and separable variables.
HEAT, WAVES AND FLUIDS	**FS 225**	Master the concepts and phenomena of heat and fluid waves and translate them into the language of mathematics to quantify these concepts. Compare with everyday situations to abstract phenomena related to this course and solve basic problems on the content of the course.
HEAT, WAVES AND FLUIDS LAB	**FS 275**	Distinguish measurable variables in a wavelike phenomenon. Using the concepts of electrical current, resistance, light intensity, capacitance and electrical power. Use the concept so the superposition principle, the phenomenon of interference and light polarization. Understand the concept and how to measure density. Distinguish the most important measurable variables of a fluid.
LOGIC MODELING	**IS 314**	Master the basics of logic and applications. Apply the techniques of logic in solving problems. Dominating the end of the course the models to pose and solve a problem using logic.
GENERAL STUDIES II	**EG**	
CALCULUS IV	**MT 310**	Calculate line integrals, multiple integrals and surface integrals. Apply theorem change variables for multiple integrals and outline their show and apply Stokes theorems of Green and Gauss divergence for both comprehensive assessment as to demonstrate theoretical results of the theory of integration. Outline the proofs of theorems of Stokes, Green, and Gauss divergence at the least in individual cases.
ELECTROMAGNETISM	**FS 320**	Analyze electromagnetic phenomena. Solve exercises related to the electric charge, the electromagnetic field, electric potential,

		capacitance, resistance, electrical circuits, magnetic induction, and electromagnetic circuits. Interpreting electrical phenomena, magnetic and combination of both, expressed in mathematical form. Compare situations of daily life with the phenomena analyzed and solve basic problems on the issues.
CLASSIC MECHANICS	**FS 330**	Analyze the main formulas of classical mechanics, emphasizing its scope and limitations, illustrate the problems that each can address and resolve simple cases.
EXPERIMENTAL ELECTROMAGNETISM	**FS 350**	Develop experimental models and explain some applications using the concepts of electrical current, resistance, light intensity, capacitance and electrical power in electrical circuits. Developing experimental models of flow and magnetic field as well as explain some applications of electromagnets and exemplify experimentally Faraday's law. Design circuits using Kirchoff's laws.
OPTICS	**FS 370**	Develop conceptual skills to understand two physical models to describe luminous phenomena, and thus optical instruments to analyze contemporary.
GENERAL STUDIES III	**EG**	
MATHEMATICAL PHYSICS METHODS I	**MT 324**	Master and use mathematical concepts and tools to study and develop theoretical physics and problem solving.
SCIENTIFIC CALCULUS	**MT 330**	Solve linear algebra, ordinary differential equations, polynomials, interpolation, manage Fourier analysis and maximum and minimum unrestricted. Manage scientific software such as Mathematica or MATLAB.
GENERAL PROBABILITY	**AE 250**	Master the basics of descriptive statistics and probability. Scan graphically and numerically the distribution of a set of quantitative data. Use different discrete and continuous models for calculating probabilities of real-life phenomena. Know the role and importance of statistical inference.
MODERN PHYSICS I	**FS 340**	Compare the physics of the twentieth century, emphasizing the difficulties of classical physics which gave rise to the theory of relativity and quantum mechanics. Establish the foundations of quantum mechanics from a point of view that combines formality with intuition.

MODERN EXPERIMENTAL PHYSICS I	**FS 355**	Master experimental methods of modern physics and apply the techniques computerized monitoring and processing of experimental data.
CLASSIC THERMODYNAMICS	**FS 401**	Master the concept of equilibrium state in such a way that you can describe phenomena of thermodynamics. Solve problems on the topics contained in the course.
MATHEMATICAL PHYSICS METHODS II	**MT 325**	Apply the concepts and properties of the second part of mathematics required for the study and development of theoretical physics.
CLASSIC ELECTRODYNAMICS	**FS 360**	Explain the formal description of electromagnetism. Solve, with mathematical rigor, problems about electromagnetic phenomena.
QUANTUM MECHANICS I	**FS 437**	Illustrate the concepts of quantum mechanics, applied to the analysis of the simplest system. Formalize quantum mechanics. Once the phenomenology of microscopic systems has been studied in previous courses, this course introduces mathematical rigor and elegance of the description of quantum systems.
GENERAL STATISTICS	**AE 300**	Apply different statistical methods to make inferences about the unknown population parameters through suitable point estimators (indicating the error limit for the estimation) or through confidence intervals for large and small samples. Calculate the appropriate sample size to have good estimates. You perform hypothesis tests for any of the following population parameters: mean and mean difference, proportion, difference of proportions and variance. Calculate and interpret the significance level achieved by a test (p value). Applying the analysis of variance (ANOVA) to completely aleatoriezazos designs. Apply Chi-square test for contingency tables and perform different tests of hypotheses for qualitative data analysis.
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
MODERN PHYSICS II	**FS 440**	Understand and operate the concepts of atomic systems with many electrons, molecular bonds, some properties of crystalline solids and atomic nuclei. Mastering statistics systems commonly used in a large number of particles.
COMPUTATIONAL PHYSICS	**FS 432**	Develop an introduction to computational modeling methods of physical systems. Solve problems of classical and modern physics.
QUANTIC MECHANICS II	**FS 438**	Ground the formalism of Quantum Mechanics. Introduce the mathematical rigor and elegance of the description of quantum systems to three-dimensional systems, the interaction between particles that generates bound states (atomic systems), and unbound states (scattering) and the interaction of particles with electromagnetic fields.

GENERAL STUDIES IV	**EG**	
STATISTICAL MECHANICS	**FS 473**	Compare the statistical assembly according to the macroscopic restrictions of the system. Analyze the averages of microscopic variables using the different statistics. Use the averages of microscopic variables to identify macroscopic properties of matter. Categorize the internal structure of molecules according to their different degrees of freedom and atomic composition.
GRADUATION PROJECT I	**FS 498**	Design a research project. Use all the theoretical and practical concepts developed by the student. Specify an area of physics within in its current context.
MODERN EXPERIMENTAL PHYSICS II	**FS 427**	Apply the experimental methods of modern physics, learn the techniques of computerized monitoring and data processing of stochastic experiments.
GENERAL STUDIES V (CO-CURRICULAR)	**EG**	
GRADUATION PROJECT II	**FS 499**	Develop the research project approved in Graduation Project I. Use all the theoretical and practical concepts developed during their studies. Specify the results obtained within the Physics area of the project.
ELECTIVES		
ELASTICITY	**FS 402**	Manipulate the concepts of stress and strain in elastic bodies. Use the stress-strain relationship according to the symmetry of the elastic bodies. Predict elastic constants in simple bodies. Exemplify the simple cases of elastic bodies.
FOURIER OPTICS	**FS 492**	Link the Fourier Analysis tools with the phenomenon of light diffraction, to describe the process of image formation, spatial filtering and optical information processing.
TELECOMMUNICATIONS FIBER OPTICS	**FS 496**	Establish the foundations of electromagnetic theory applied to the propagation of ultrashort light pulses in optical fibers, the dispersion of wave packets, the non-linear phenomena of intense pulses self-action, the physics of bright optical solitons, the amplification and generation of solitons in fibers with dopants
ELECTRONIC INSTRUMENTATION	**IE 354**	Distinguish and apply the basic concepts of measurement and identify the main functions performed by measuring instruments. In addition to classifying the most used sensors for the measurement of the physical variables used in the industry such as: temperature, position, movement, pressure, level and flow. Analyze a set of specifications to identify alternatives and select the best among them to solve specific problems of process instrumentation.

LICENCIATURA IN TOURISM MANAGEMENT

GENERAL TOURISM THEORY	TR131	Outline the components of international tourism and analyze how they interrelate. Analyze tourism as a social phenomenon, its political, economic and socio-cultural implications. Argue about the travel behavior of tourists. Analyze international tourism marketing and the role of various international organizations. Analyze the social, economic and environmental impacts generated by tourism. Identify trends in international tourism.
BUSINESS FUNDAMENTALS	BA 111	Administration teaching has traditionally been based on what is known as the Theory of the administrative process. Since Harold Koontz published his famous article Management Theory Jungle in the Journal of the Academy of Management, the administrative process has been the set of ideas, no doubt, that most influential in teaching college-level administration. Analyze and observe this theory is interesting and practical value, but that does not help much to understand the complex world of business. Analyze the theory of the administrative process, define its strengths and weaknesses and identify some theoretical alternatives that can solve such deficiencies.
GENERAL STUDIES I	EG	
THOUGHT AND LANGUAGE	PC114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness
MATH FOR BUSINESS	MA117	Demonstrate that uses mathematical concepts and techniques that allow solving problems of an economic, administrative, accounting, social sciences and nature. Algebra operate efficiently sets in solving problems of their professional practice. Algebra concepts used to construct graphs of functions related to current business problems.
SECOND LANGUAGE I	ID	
SECOND LANGUAGE LAB I		

TOURISM MARKETING	**TR120**	Manage general marketing concepts and apply them in the various sectors of the travel industry and tourism. Diagnose problems related to tourism and make marketing plans applicable to tourism.
FINANCIAL ACCOUNTING	**FC112**	Analyze the different types of organizations and different financial statements to make proper decisions.
PROFESSIONAL WRITING	**PC214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
BUSINESS CALCULUS	**MA135**	Analyze and use the differential and integral calculus techniques to solve classical optimization and other economic-administrative, accounting and social sciences problems for one or more variable functions.
SECOND LANGUAGE II	**ID**	
SECOND LANGUAGE LAB		
SERVICE MARKETING	**MK216**	The course provides the student a focus on planning and using marketing strategies for service businesses. They will analyze service organizations and adjust marketing goals and strategies accordingly.
PRINCIPLES OF MACROECONOMICS	**EC 201**	Master the basics of microeconomic analysis, identifying their use and representing contemporary economic phenomena.
MANAGERIAL ACCOUNTING	**FC333**	Interpret and use the information generated by cost accounting for proper planning and control of a company
BUSINESS COMMUNICATION	**BA105**	At the end of this course, the student will master verbal and nonverbal communication tools. Act as a communication agent achieving informative and persuasive achieving objectives in organizations' public relations.

STATISTICAL ANALYSIS	AE 242	Train the student to make decisions by using the most common methods to analyze and interpret data through extraction, recognition, classification, description, presentation, and inference based on theoretical and practical foundations to understand, use, compare and reorganize information.
SECOND LANGUAGE III		
SECOND LANGUAGE LAB III		
TOURISM INFORMATION SYSTEMS	TR 212	Apply the tools linked information systems to the field of Tourism. Systems design tours that increase the tourist offer of a destination.
PRINCIPLES OF MACROECONOMICS	EC 202	Master the basics of macroeconomic analysis, identifying their use in describing contemporary economic phenomena.
LABOR LAW	DE 342	At the end of the course, students will master the following concepts, practices and techniques: History, socio economic and political relevance of the Labor Law in the world, in Mexico, and workers and trade unionists linked movements. The management of individual labor relations, its legal institutions. Management of collective labor relations, its legal institutions. Rights and obligations for workers and employers. Negotiating a strike from the workers 'or employers' perspective. The content and the development of an individual employment contract, a collective employment contract and a contract law or industry. You will know the unions, its structure, standards, performance and importance.
GENERAL STUDIES II	EG	
ORGANIZATIONAL BEHAVIOR	BA 201	Develop and understand the dynamics of people in organizations, to conduct themselves assertively, and thus contribute to organizational goals.
STATISTICAL ANALYSIS INFERENCIAL PARA EL TURISMO	AE 262	Pose, solve and interpret problems related to statistical inference: Interval estimation and hypothesis testing in tourism management issues. Use at least one statistical package that will allow you to interpret statistical inference and computer outputs. Perform analysis of variance, and statistical packages used for this purpose. Solve problems of qualitative data through crosstabs.

SUSTAINABLE TOURISM DEVELOPMENT	TR 340	Identify and analyze the important features that currently contains sustainable development. Plan sustainable development to tourism development applies. Identify the impacts of tourism on the natural, social and cultural environments as well as in the urban environment. Use techniques available to implement environmental management systems. Analyze the efforts made to engage nations in a global commitment to sustainable development.
TOURISM DIVERSIFICATIONS	TR 345	Identify and analyze the development that has taken tourism social fact in its modern era and how it has differentiated into various manifestations through this period in response to perceived needs of a specialized tourism and assess what the tourist offer to meet these needs. especially addressing tourism products in rural areas, such as rural ecotourism and cultural tourism and passenger health, religious and adventure as its most significant differentiations and likewise consider other variables tourism manifested today.
TOURISM ECONOMICS	EC 247	Outline the economic variables that are related to tourism, and the nature of that relationship. Identify tourism as an activity of paramount economic importance. Analyze the economic effects of tourism and how they are evaluated. Explore different areas of tourism.
TOURISM LAW	DE 364	Analyze the regulation of the most common legal problems that may result in international tourism.
TOURISM SOCIOLOGY	TR 350	Rationalize the fundamental concepts of sociological analysis to be able to apply the understanding of all aspects of integrating and tourism phenomenon as a social fact, which is based in turn on patterns of group behavior and mindsets that determine the nature of the performance of travelers and tourists.
TOURISM GEOGRAPHY	TR 353	Analyze the main components of the tourism phenomenon and the way in which these factors affect the preparation and management of natural and unnatural physical spaces where the main tourist activity is developed around the world.
GEOGRAPHIC AND NETWORK INFORMATION METHODS	TR370	Use the tools related to georeferencing systems, applied to the development of tourist destinations.
TOURISM ANALYSIS AND PLANNING	TR 377	Identify and evaluate attractive segments in tourism markets; analyzing and selecting potential sites for creating successful tourism businesses in the context of high corporate competitiveness.
GENERAL STUDIES III	EG	

QUANTITATIVE METHODS IN TOURISM MANAGEMENT	**AE 372**	Analyze, identify and argue: the role of financial manager within companies; the different ways in which they operate; the basic tools of financial analysis and planning; evaluate financial performance through the analysis of financial ratios and cash flow, the structure of the asset and financial structure; as well as the determinants of valuation of financial assets, the value of money over time, risk analysis and performance; and the characteristics and forms of valuation of fixed income securities and common shares in the domestic and international markets.
FINANCIAL MANAGEMENT I	**FC 361**	Play the role of financial manager in companies; the different ways in which they operate; understand the basic tools of financial analysis and planning; evaluate financial performance by analyzing financial ratios and cash flow, asset structures and financial structure; understand the valuation of financial assets, the value of money over time, risk analysis and performance; the characteristics and ways to valuate fixed income securities and common shares in the domestic and international markets.
E-TOURISM	**TR 355**	Analyze the elements and key technologies of e-business and develop the skills to apply Internet technologies to business processes.
PROFESSIONAL SEMINAR	**TR 400**	Comprehensively implement all the knowledge acquired and even analyze processes and problems in the company to propose solutions or alternatives for action. Such practices will be scheduled for the seventh semester of the curriculum.
MANAGEMENT OF TOURISM RESOURCES	**TR 410**	Analyze and determine the forms of spatial organization of tourism and tourist destinations, design plans for managing both consolidated tourist areas as new tourist destinations.
NEW BUSINESS FOCUS	**HR 420**	Identify and analyze business methods in the hospitality industry. Outline the conceptual and operational framework related to each business. Address and debate issues related to each business focus and develop solutions. Determine which is the best business alternative in each situation.
HUMAN RESOURCES MANAGEMENT	**BA 211**	The student will be able to understand the most important HR concepts and functions within organizations.
DEVELOPMENT OF TOURISM PRODUCTS AND DESTINATIONS	**TR 415**	Analyze the factors affecting the innovation and development of tourism products. Make the process of developing new tourism products.

SOCIAL RESPONSIBILITY	RS 498	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
BUSINESS STRATEGIES	BA 410	Students will implement and develop the main conceptual, methodological and technological tools for organizational strategy.
GASTRONOMIC CULTURE	HR 411	Identify and describe the evolutionary process of gastronomy, its origins and the characteristics of those kitchens representative and have significantly influenced our country.
GENERAL STUDIES IV	EG	
MANAGEMENT OF PROTECTED AREAS AND SCENERY	TR 420	Apply the different techniques and instruments to support planning, implementation and monitoring of tourist services in protected areas to achieve an effective management of visitors in protected areas, design plans and programs for the protection of the tourist landscape.
PROPOSING AND EVALUATING TOURISM PROJECTS	TR426	Manage the general concepts to create a tourism project. Diagnose whether different tourism projects can be carried out evaluating them according to different criteria.
GRADUATION PROJECT I	TR 495	Analyze the steps of scientific research so that students build a research paper.
SELECT TOPICS IN TOURISM	TR430	Analyze the changes that occur in the tourism industry at an internacioal level. Analyze and discuss the political, economic, financial, commercial and cultural environment within international business with special emphasis on the tourism industry.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
FREE TIME MANAGEMENT	TR480	Animation design programs and strategies for their implementation, considering the various segments of the tourism industry.
ETHICS AND SOCIAL RESPONSIBILITY	HR 432	Outline the place of ethics in the general framework of philosophical knowledge and its object about the goodness or badness of human acts and is constituted as human and moral conduct of the person. Analyze how groups of people organized to make ethical purposes. Analyze the activities of business enterprises and argue, critically, in relation to actions taken by companies in society.

TOURISM TRANSPORTATION	TR 425	Integrate various modes of transportation, coupled with various logistics processes to provide comprehensive solutions, handle and manage tourism with a high degree of timeliness and efficiency.
GRADUATION PROJECT II	TR496	Develop and finalize the research project under the guidance of a faculty member.

LICENCIATURA IN ART HISTORY

ART AND ITS DISCOURSES I	HA108	Master the peculiarities of the socio-cultural context that led, in the Western context, to the invention of art. Also, master the specific problems of the construction of the discourses of art and, therefore, of the art prior art, of art for art and the art after art. Mastering the problems of the categories of art speeches / about art.
PRE-HISPANIC ART IN NORTHERN MEXICO	HA107	Identify, relate and contrast the different cultures that developed in northern Mexico to equal his artistic production with those of other Mesoamerican cultural areas. Likewise, characterizing the artistic production of the cultures that settled in the northern Mesoamerica and in extratropical regions.
FIRST ARTISTIC MANIFESTATIONS	HA 106	Explain the problem of art in its infancy mainly in the west. Review and discuss the various theories that have been proposed to explain both the emergence of art as its possible meanings. Plastics and establish formal links with certain types of manifestations of contemporary art.
TECHNIQUES AND MATERIALS	AP 110	Use Plastic Arts and determine the importance of the proper use of the material to preserve the different materials and their physical components. Similarly, practice basic techniques pictorial application practice with different media and explore the knowledge of the theory of color.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	

ART AND ITS DISCOURSES II	HA 118	Know the socio-cultural context that led some European philosophers to develop the construction of a specific reflection on this field of specific objects called art from the eighteenth century. Also, learn some of the most outstanding positions of these speeches that have been reused by other theorists and artists throughout the twentieth century to support their ideas and/or defend their plastic proposals
PRE-HISPANIC ART IN CENTRAL MEXICO	HA 117	Identify the cultures that developed in central Mexico. Relate and compare them with other cultures Mesoamerican cultural areas. Likewise, characterizing the artistic production of the cultures that settled in central Mexico
CLASSIC ANTIQUITIES	HA 116	Explain to students the theoretical and methodological elements that can identify intrinsic values in the great architectural works, sculptures, paintings and minor arts of the period studied and link its relationship with other manifestations of human activity.
CURATORSHIP	AP 481	Build technical knowledge of mounts exhibitions and reason the importance of managing artistic works and its specific requirements for its conservation. Likewise, analyze the technical specifications of the new visual technologies. Link the museum as a space of representation and presentification
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE I	ID	
ART AND SIGNS	AP 230	Understand the theoretical principles that define the main semiotic schools and their theoretical and instrumental strategies. Learn the theory involved in the foundation of the artistic phenomenon.
PRE-HISPANIC ART IN SOUTHERN MEXICO	HA 207	Identify the cultures that developed in southern Mexico, including Guatemala, Belize and Honduras to form the study area of culture. Likewise, characterize the artistic production of the cultures that settled in southern Mesoamerica and relate and contrast these cultures with those of other cultural areas mesoamericanas
EUROPEAN ART I	HA 206	Explain to students the theoretical and methodological elements that can analyze the intrinsic values in the great architectural works, sculptures and paintings, as well as the minor arts of the period studied and link its relationship with other manifestations of human activity

PROBLEMS OF ART IN EDUCATION	**AP 409**	Analyze the problems facing the teacher and reason epistemic foundations in education for later argue designs and methodologies and educational models
SECOND LANGUAGE	**ID**	
MUSEUM HISTORY AND INNOVATION	**HA 218**	Analyze, identify and define specific problems related of the history and evolution of museums in the western area and in Mexico mainly, for example, the history and evolution of public museums directly related to the phenomena of different aspects democratization of culture and cultural tourism. Master the specific problems of museum architecture and its development in the 2nd half of the twentieth century.
ART IN NEW SPAIN IN THE 16TH CENTURY	**HA 217**	Characterize the first stage of construction of Mexican New Spain art driven primarily by the Franciscans, Dominicans and Agustines, mendicant orders mainly in architecture, sculpture and mural painting Understand the specifics of what R. Ricard called the spiritual conquest and colonization and its direct and indirect consequences on the conception and development of the arts.
EUROPEAN ART II	**HA 216**	Explain the fundamentals needed to understand art and its relationship with the socio-cultural environment of the period between the fifteenth and sixteenth centuries. Also, identify and analyze the evolution of the plastic language and ideo-aesthetic of the Renaissance and Mannerism European
MUSEOGRAPHY	**HA 205**	Mastering the specific problems of museology
ISLAMIC ART AND MUDEJAR	**HA 227**	Describe and define the main characteristics of art in Islam as well as ownership of some of its decorative elements and construction by the Spanish and later Christian art by indo-Christian New Spain art. Identify the characteristics of the problems related to the construction of the Mudejar in the speeches of the History of Art and describe and define the main characteristics of the New Spain Mudejar, particularly in the Puebla-Tlaxcala region.
SECOND LANGUAGE II	**ID**	
ART SOCIOLOGY	**HA 308**	Introduce the main features of discourses and methodologies of the sociology of art, between different approaches to the restructuring of the theory of art developed in the 2nd half of the twentieth century.

ART IN NEW SPAIN IN THE 17TH AND 18TH CENTURY	HA 307	Discern and define the second stage of development of the New Spain Mexican art produced mainly in urban workshops and under guidelines of the secular clergy, and analyze the particularities of this art in the seventeenth and eighteenth centuries mainly in terms of how architecture and architecture altarpieces, sculpture and relief and easel painting. Identify the characteristics of the beginning of the emergence of a Mexican nationalist consciousness and its direct impact on artistic production.
EUROPEAN ART III	HA 306	Apply the theoretical and methodological elements to the understanding of historical and artistic art that are covered in this period processes. Identify, analyze and evaluate artists, works and processes more representative of the European seventeenth and eighteenth.
FUNDAMENTALS OF REPRESENTATION	AP 101	Develop spatial visualization and create a gestural immediacy and incorporate the principles of representation of spatiality in a two-dimensional plane, selected those principles necessary to develop their expressive power. Likewise link systems understanding relationship formats to represent objects.
FUNDAMENTALS OF REPRESENTATION LAB		Identify the principles of representation of spatiality in a two-dimensional plane and reasoning systems understanding relationship formats to represent objects
GENERAL STUDIES II	EG	
ART CRITICISM	HA318	Provide a historical introduction to the origins and developments highlights of art criticism from the eighteenth century to the present day and present the various theoretical foundations from which to build art criticism to achieve read critically and in detail some of the contributions of critical contemporary art.
MEXICAN ART IN THE 19TH CENTURY	HA 317	Discern and define the main characteristics of Mexican art of the nineteenth century which contrasted radically with the work of academics in production workshops and academies. Analyze their specifics primarily in terms of how architecture and architecture altarpieces, sculpture, paintings, graphics and photography. Also, identify the specifics of the problem of national art under the government of Porfirio Diaz and its consequences in Mexican artistic production.
EUROPEAN ART IN THE 19TH CENTURY	HA 316	Explain to students theoretical methodological elements so they can analyze the intrinsic values in the great architectural works, sculptures, paintings and decorative arts calls for the XIX.
GENERAL STUDIES III	EG	

ART AND PSYCHOANALYSIS	HA 408	Define and analyze the reasons appropriations or rejections of psychoanalysis by theorists and historians of art. Master the specific problems that psychoanalysis has raised, such as Sigmund Freud in his time as well as their own proposals for psychoanalytic reading of art. Define and analyze changes to the concept of the unconscious developed by C.G. Jung and their respective proposed reinterpretation of artistic processes and the history of art
MEXICAN ART IN THE FIRST HALF OF THE 20TH CENTURY	HA 407	Define the main characteristics of Mexican art of the 1st half of the twentieth century, whose proposals are inscribed in dominant fashion, at first, in finding and defining a nationalist art. Similarly, understand and analyze the characteristics of the Mexican entrance to modern plastic, mainly in its forms of sculpture, easel painting, graphics and photography
RESEARCH METHODOLOGY	HA 474	Provide students with the theoretical and methodological elements used in scientific research in general and the specific methods of the scope of the art historian.
ART IN THE FIRST HALF OF THE 20TH CENTURY	HA 406	Introduction to the study of the development of contemporary art in Europe in the first half of the twentieth century, emphasizing the critical appraisal of each of the currents, tendencies and different movements that characterize
GENERAL STUDIES IV	EG	
SOCIAL RESPONSIBILITY	RS 498	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
THEORY OF CURRENT ART	HA 418	The overall objective of this course is to give the student a comprehensive overview of the debate Modernity-Postmodernity as the focus of discussion in which entrench the development of artistic practices throughout the twentieth century and especially in contemporary times. It is intended that the student, at the end of the course, show a satisfactory understanding of the different approaches and controversies that make up the debate in question and capacity to employ its terms critically and sustained
MEXICAN ART IN THE SECOND HALF OF THE 20TH CENTURY	HA 417	Discern and define the main characteristics of Mexican art of the 2nd half of the twentieth century, which are inscribed in dominant fashion, at first, in a radical opposition to the plastic values and iconographic promoted by the nationalist school, particularly in its modalities sculpture, easel painting, printmaking and new genres

ART IN THE SECOND HALF OF THE 20TH CENTURY	HA 416	Know the fundamentals necessary to interrelate art with the economic, philosophical, social and spiritual environment of the human being during the second half of the 20th century. Identify and understand the various changes and artistic proposals that occur in art and ideo-aesthetic thought during this time. Adequately handle the theoretical and methodological instruments for a comprehensive reading and analysis of works of art in the period studied.
GRADUATION PROJECT I	HA 484	During this course the student will select a research topic and argue about its feasibility to make a formal proposal to the Department and obtain approval
NEW TRENDS	HA426	Introduce students some of the developments in artistic practices, the exhibition strategies and theoretical proposals for the last two decades and familiarize with the new visual syntax in which contemporary art practices are supported
GRADUATION PROJECT II	HA494	During this course the student should develop a work based on an argumentative structure that can demonstrate the hypotheses raised in his thesis project
GENERAL STUDIES V (CO-CURRICULAR)	EG	
SEMINARS		
ADVANCED SPANISH ART SEMINAR	HA 450	Deepen the artistic production of Spain in the fifteenth century to the twentieth from analyzing the notions of the mystical, tragic and death in the Spanish art through the works and major artists of each period. Approach to the study and understanding of some aspects and significant artists in the process of construction of "Spanish" in art.
ADVANCED SEMINAR: ART IN CUBA AN APPROACH TO THE HISTORY OF ART IN CUBA	HA482	Address an overview of the evolutionary process of Cuban art from the colonial centuries to the present day through its most significant expressions in each of the historical periods transiting its future
ADVANCED SEMINAR: RENAISSANCE ART	HA 483	Provide theoretical and methodological elements that can appreciate the intrinsic values in large architectural works, sculptures, paintings and the smaller gear and the period studied perceive their relationship with other manifestations of human activity
ADVANCED SEMINAR: FORM AND IMAGE	HA 481	Analyze the artistic production from the History of Art, by reading works from the instrument of visual literacy. Link the student to the understanding of the content of the various plastic-artistic manifestations through the analysis of how each objectification adopted as imperative for material existence.
ELECTIVES		

THEORETICAL COMMUNICATION SCHOOLS	CO 215	The aim of the course is that the student recognize the main features of the theoretical schools of communication. The student will study the authors, assumptions and empirical major studies developed by each of the schools
LANGUAGE OF IMAGES IN MOVEMENT I	CO 264	The student will start in the analysis and use of the visual language moving.
LANGUAGE OF SOUND	CO 243	Provide students the basic knowledge for the operation of the audio equipment and the use of resources of the language of the sound
VISUAL SEMIOTICS	DV 254	Know and apply the basic principles of semiotics of image and visual language on fixed media and an introduction to the media on the move. Also, develop the basis for the formation of objective criteria leading to enrich your proyectual skill and to understand the role of different media
HISTORY OF VISUAL CULTURE	DV 263	The aim is to familiarize students with the history, authors and theories that constitute the conceptual equipment needed to build a critical look at the world of visual culture
VISUAL RHETORIC	DV 355	Learn about the history of traditional rhetoric, its structures, most representative styles and different rhetorical literary figures and study the different rhetorical literary from a point of view focused on the visual field. Similarly, develop theoretical knowledge, practical and methodological analysis and product creation design rich semantic and syntactic content from the perspective of rhetoric
VISUAL NARRATIVE	DV 356	Sensitize the student to micro-narratives distinctions in the field of dynamic media compared to traditional print media. Using the set of concepts of narrative to interpret and understand the structure of communication processes in print, and display.

LICENCIATURA IN HUMANITIES

CULTURE THEORY	HU 120	Analyze the main cultural events of the twentieth century (ritual, music, writing, oral and audiovisual), with the main objective to establish, based especially syntactic features, a typology that group the different variants of such manifestations
INTRODUCTION TO PHILOSOPHY	FI 130	Encourage students to produce critical and theoretical texts on philosophical topics discussed in class

LITERARY MODELS: FICTION	**LI 154**	Analyze basic narrative genres: the epic (the Mesopotamian and classical epic), the novel and the short story. Discerning narration and respective theories on such genres as working tools to facilitate, on the one hand, to establish structural and thematic between them and, on the other hand, find distinctions and interpret narrative works paradigmatic, from the Mesopotamian epic to novels and stories today of the Western world, through the classical epic. Selected works relate to the historical context in which they occur and the most relevant critical literature on them
ART, HISTORY AND CULTURE	**AS 137**	Get the knowledge to interpret the elements of the history of art under the influence originates with the political, social, cultural and economic in world history and be able to apply to their plastic projects
GENERAL STUDIES I	**EG**	
EPISTEMOLOGICAL MODELS	**HU 180**	Develop a (not strictly chronological or author) conceptual approach to the problems paired with the processes of knowledge construction. In addition, categorize the various epistemological strategies according to three characteristic patterns: realistic, idealistic and pragmatic. REVIEW texts highlights of the Theory of Western knowledge
GREEK AND MEDIEVAL PHILOSOPHY	**FI 180**	From a historiographical perspective describe the thinking of leading Greek and medieval philosophers. Establish the origin of some of the specific and recurring problems in Western thought. Develop an overview and integrating different philosophical issues in the general corpus of the work of the first thinkers, so appreciate how intermesh problems of epistemology, ethics, aesthetics or theology
LITERARY MODELS: THEATER	**LI 155**	Identify the basic characteristics of the drama and use them in the analysis of dramatic texts. Distinguishing the general characteristics of the main dramatic genres. Analyze the historical evolution of the genre through the concepts of some essential theoretical texts and identifying its relations, or not, with the dramaturgy of his time
GENERAL STUDIES II	**EG**	
THOUGHT AND LANGUAGE	**PC 114**	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	**ID**	

TECHNOLOGY AND KNOWLEDGE	**HU 220**	Develop an expanded definition of the "technology" concept so that not conceived as a mere instrument of action on nature but as a cognitive extension of the human being. Identify different technologies have implications in the way we conceive our existence. Interpret, so notions such as time or space in relation to orality, writing or electronic image
MODERN PHILOSOPHY	**FI 233**	Categorize, from a historiographical perspective, the thought of major modern philosophers, as well as the first approaches to the hypothetical-deductive model of science in the planes of astronomy and physics. Synthesize some of the concrete and recurring problems of Western thought, especially those related to the theory of knowledge, priority concern of modern philosophy
LITERARY MODELS: POETRY	**LI 254**	Develop the theoretical and methodological elements to analyze poetry. Describe in general terms the path of poetry, with emphasis on Western poetry
FIRST ARTISTIC MANIFESTATIONS	**HA 106**	Explain the problem of art in its infancy mainly in the western area. Review and discuss the various theories that have been proposed to explain both the emergence of art as its possible meanings. Plastics and establish formal links with certain types of manifestations of contemporary art
PROFESSIONAL WRITING	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	**ID**	
CULTURAL RESEARCH AND CRITIQUE	**HU 290**	Develop the necessary tools for the analysis of cultural products and to put together a review to be presented. Also, develop practical mechanisms to detect points of interest in cultural productions (such as film, literature or art); resources database and publications where you can compare them and nurture their critical argument are identified
CONTEMPORARY PHILOSOPHY	**FI 334**	Analyze from a historiographical perspective thinking of the leading contemporary philosophers, from Hegel and post-Kantian hermeneutics and linguistic turn. Also, identify some of the specific and recurring problems in Western thought of the twentieth century, especially those related to historicizing knowledge, interpretation and language.
LITERARY MODELS: ESSAY	**LI 255**	Analyze models of the trial from Montaigne to today. Identify and illustrate contributions Hispanic and Mexican essay writers.

EUROPEAN ART II	HA 216	Learn the fundamentals needed to understand art and its relationship with the socio-cultural environment of the period between the fifteenth and sixteenth centuries. Also, identify and analyze the evolution of the plastic language and ideo-aesthetic of the Renaissance and Mannerism European
SECOND LANGUAGE III	ID	
TOPICS OF CURRENT THINKING	FI 345	Evaluate contemporary issues from academia that are currently redefining the contents of disciplines such as philosophy, anthropology and sociology. Analyze readings grouped into themes such as "cultural studies", "globalization", "postcolonialism" or "Latin American thought." Critically synthesise the most representative texts on these issues, drawing on the baggage accumulated during their studies, so they can debate them.
EUROPEAN ART III	HA 306	Apply the theoretical and methodological elements to the understanding of historical and artistic that are covered in this period processes. Identify, analyze and evaluate artists, works and processes more representative of the European seventeenth and eighteenth
SECOND LANGUAGE IV	ID	
SCIENCE PHILOSOPHY	FI 317	Establish a synoptic view of the traditional problems and recent developments in the philosophy of science. Discuss issues of natural science and social science, and after considering the experimental results and/or obtained by theoretical research communities within scientific disciplines, philosophical views assess the objectives, methods and achievements of these disciplines
ART IN THE SECOND HALF OF THE 20TH CENTURY	HA 416	Apply the necessary foundations to relate art with the economic, philosophical, social and spiritual environment of the human being during the second half of the 20th century. Identify and understand the various changes and artistic proposals that occur in art and ideo-aesthetic thought during this time. Adequately use the theoretical and methodological instruments for a comprehensive reading and analysis of the works of art in the period studied
GENERAL STUDIES III	EG	
SECOND LANGUAGE V	ID	
ART PHILOSOPHY	FI 423	Distinguish between Philosophy of Art and Aesthetics as areas of philosophical reflection that mark different problems: philosophy of art as philosophical problem unlike the science of aesthetics or beauty. Compare a selection of some of the main theories on the conception of art, from Plato to contemporary. Carefully analyze the peculiarities and special problems generated around the definition of art throughout the twentieth century

GENERAL STUDIES IV	**EG**	
SOCIAL RESPONSIBILITY	**RS 498**	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
GRADUATION PROJECT I	**HU 493**	Identify a research topic and argue about its feasibility to make a formal proposal to the Department and obtain approval.
ESTUDIOS GENERALES V (CO-CURRICULAR	**EG**	
GRADUATION PROJECT II	**HU 494**	Develop a work with argumentative structure. Demonstrate the hypotheses raised in the thesis project
PHILOSOPHY ELECTIVES		
PRE-HISPANIC THINKING IN MEXICO	**FI 211**	Describe characteristics of the cosmogenic thinking through the analysis of a specific and relevant case from a historical-cultural perspective (prehispanic contect in present-day Mexico). Analyze elements, with a multidisciplinary approach, to recognize, compare the comprehensive nature of Nahuatl thought with the analytical nature of Western thought.
CLASSIC LOGIC	**FI 204**	Categorize traditional formal logic, with emphasis on the deductive method, and describe symbolic logic, with emphasis on the importance of its applications in the contemporary world, especially in information technology. The distinction between truth and validity in the arguments, and the various forms of valid argument, such as modus ponens, the hypothetical syllogism, disjunctive syllogism, etc.
METAPHYSICS	**FI 252**	Describe various topics of realism and anti-realism in contemporary metaphysical, distinguishing those which are relevant within the range of semantics and ontological. Identify the many ways that can be found realism and anti-realism in various subject areas: shapes and colors, moral values, numbers and possibilities
LANGUAGE PHILOSOPHY	**FI 383**	Identify the authors and subjects more representative of the philosophy of language, with an emphasis on history and early development of this discipline as it was known through reading and analysis of representative texts and enable him to understand and assess the central questions of philosophy of language.

LAW AND POLITICS PHILOSOPHY	**FI 385**	Distinguish the recurring problems of political philosophy by reading sis representatives in the modern period: Hobber, Loce, Rousseau and Marx. Cuestrión analyze the legitimidaddel government, asking if and why we are obliged to obey a government which types of government are legitimate and which ones are not, and whether there are circumstances in which the rebellion before a government is justified.
ADVANCED TOPICS IN LANGUAGE PHILOSOPHY	**FI 470**	Identify the authors and most representative themes of language philosophy, with emphasis on the evolution of the discipline since its heyday in the early decades until their decline in the second half of the twentieth century. These are "advanced topics" not merely because of the chronological question, but rather because of the increase in the degree of complexity of the texts and the level of information required of the student, who must have already studied Philosophy of Language, and describe by Therefore, the historical and conceptual background of the problems discussed here.
SPECIFIC PHILOSOPHERS: WITTGENSTEIN	**FI 491**	Identify characteristic problems of the philosophy of Ludwig Wittgenstein; properly use the concepts and/or technical terms that correspond (logical, sense, meaning, language game, ostensive definition, lifestyle, grammar, etc.); at the end of the course, conceptually linking different areas of the philosophy of Wittgenstein and rigorously argued, such connections
LITERATURE ELECTIVES		
THEORY AND CRITICISM	**LI 164**	Analyze and compare the major theoretical and critical texts of the nineteenth century on literature. Distinguish different approaches to the literary text: philosophical, sociological, hermeneutics, aesthetics, psychoanalysis, among others
20TH CENTURY LITERARY THEORY	**LI 165**	Analyze and compare the major theoretical and critical texts of the nineteenth century on literature. Distinguish different approaches to the literary text: philosophical, sociological, hermeneutics, aesthetics, psychoanalysis, among others
PRE-HISPANIC LITERATURE	**LI 171**	Analyze pre-hispanic literature in its main manifestations. Develop an overview of pre-hispanic culture. Interpret the uniqueness of pre-hispanic cultural production and its subsequent categorizations
INTRODUCTION TO LITERARY CREATION	**LI 180**	Develop the necessary skills and writing types of literary writings. Apply the resources of literature to writing academic essays.

LITERATURE IN NEW SPAIN (UNTIL THE 18TH CENTURY)	LI 273	Identify the characteristics of Latin American literary production from its origins to the eighteenth century. Understand their periods, current aesthetic and particular manifestations most relevant. Analyze the canonical texts of the colony from different theoretical perspectives.
19TH CENTURY LITERATURE IN NEW SPAIN	LI 274	Carefully analyze the American emancipation literature with special attention to the nineteenth-century essay - to assess the founding of the canon and early historiography.
SPANISH LITERATURE IN THE GOLDEN AGE I	LI281	Identify topics, genres and poetry of the Spanish Renaissance and apply basic knowledge to analyze any philological study of a text of the period.
SPANISH LITERATURE IN THE GOLDEN AGE II	LI 282	Identify topics, genres and poetics of the Baroque Spanish and philological apply basic knowledge to analyze any study of a text of the period.
CARIBBEAN LITERATURE	LI 257	Describe the currents and the major figures of Caribbean literatures not spoken in Spanish. Compare the cultural production of the Caribbean with Hispanoamericana of the time
BRAZILIAN LITERATURE	LI 375	Understand the general characteristics of Brazilian literature of the nineteenth and twentieth centuries and compare them with the American literature of the same period
HISPANIC AMERICAN LITERARY CRITIQUE AND HISTORY	LI 343	Analyze the development and transformation of Latin American literary criticism and historiography in the twentieth century. Approaches to identify those theories to American literature.
HISPANIC AMERICAN LITERARY FICTION	LI 344	Compare and answer the contributions of the boom generation and call the most current proposals. Interpret works of the boolm of the agreement with the cultural and political context in which produeron.
ART ELECTIVES		
PRE-HISPANIC ART OF NORTHERN MEXICO	HA 107	Identify the cultures that developed in northern Mexico. Characterize the artistic production of the cultures that settled in the septrional Mesoamerica and in extratropical regions. Relate and contrast the cultures of northern Mexico and artistic production with those of other Mesoamerican cultural areas.
PRE-HISPANIC ART OF CENTRAL MEXICO	HA 117	Identify the cultures that developed in central Mexico. Characterize the artistic production of the cultures that settled in the central zone of Mexico. Relate and contrast the cultures of central Mexico with those of other Mesoamerican cultural areas.

PRE-HISPANIC ART OF SOUTHERN MEXICO	**HA 207**	Identify the cultures that developed in southern Mexico, including Guatemala, Belize, and Honduras to form the study area for Mayan culture. Characterize the artistic production of the cultures that settled in southern Mesoamerica. Relate and contrast the cultures of southern Mesoamerica with those of other Mesoamerican cultural areas.
NEW TRENDS	**HA 426**	Identify and compare developments in artistic practices, the exhibition strategies and theoretical proposals for the last two decades. Master new audiovisual syntax in which contemporary art practices are supported
ART IN THE FIRST HALF OF THE 20TH CENTURY	**HA 406**	Introduction to the study of the development of contemporary art in Europe in the first half of the twentieth century, emphasizing the critical appraisal of each of the currents, tendencies and different movements that characterize
THEORY OF CURRENT ART	**HA 418**	Analyze the concepts of Modernism-Postmodernism as the focus of discussion and development of artistic practices throughout the twentieth century, especially in contemporary times. Understand the different approaches and controversies that make up the debate in question and capacity to employ its terms critically and sustained
ART CRITICISM	**HA 318**	Support and develop the critical history of art from the eighteenth century to today. Master the various theoretical foundations from which to build art criticism to achieve critical and assess in detail some of the contributions of contemporary art criticism.
MUSIC ELECTIVES		
MUSICAL THEORY II	**MU 102**	Apply the basic principles in writing for four voices and compose small pieces in a choral texture four voices
MUSICAL THEORY III	**MU 203**	Analyze musical works of the Romantic period and compose small pieces in a coral texture four voices or instruments using a romantic musical language
AUDITORY TRAINING I	**MU 111**	Develop listening skills and vocal intonation and relate auditory memory with music notation so that the student will sing and write rhythmic exercises, rhythmic-melodic and harmonic progressions of triads primary major and minor
AUDITORY TRAINING II	**MU 212**	Develop listening skills and vocal intonation and relate auditory memory with music notation so that the student will sing and write rhythmic exercises and rhythmic-melodic include subdivisions and syncopations in simple and compound meters and harmonic progressions primary triads major and minor

MEDIEVAL AND RENAISSANCE MUSIC	**MU 121**	Know, identify and analyze representative works of the Western musical repertoire prior to 1600. Understand the musical genres and styles prior to the Baroque period, both vocal and instrumental.
BAROQUE AND CLASSICAL MUSIC	**MU 222**	Distinguish, recognize and analyze representative works of the Western musical repertoire of the seventeenth and eighteenth centuries. Understand and relate the historical and social context of the time
MUSIC IN THE 19TH CENTURY	**MU 223**	Synthesise the life and work of composers, identify and analyze representative works of the repertoire, stylistic understanding the changes in music during the nineteenth century
20TH CENTURY MUSIC	**MU 328**	Identify and analyze representative works of the Western musical repertoire of the twentieth and twenty-first century. The life and work of composers of the time, new trends and musical styles, understanding its relationship to the historical development
THEATER ELECTIVES		
HISTORY OF THEATER I	**TE 117**	Analyze some plays and theatrical theories from the classical Greek period to the classical French theater, considering the dramatic and theatrical principles that its creation and distinguishing genres and styles in which they are located. Review some of the conditions of representation and the practice stage in each period
THEATER I	**TE 221**	Identify technical and historical-social course of the performance, from its origins to the present rituals and recognize the different trends of creation in this area
HISTORY OF THEATER II	**TE 217**	Analyze some plays and theatrical theories since the eighteenth century until the end of the twentieth century, considering the dramatic and theatrical principles that its creation and distinguishing genres and styles in which they are located. Review some of the conditions of representation and the practice stage in each period
THEATER II	**TE 222**	Analyze from the categories and methodological approaches major studies of the dramatic text
ARCHITECTURE ELECTIVES		
ARCHITECTURE IN HISTORY	**AR 134**	Interpret design intentions present in Western architecture, including interior and exterior elements, from its origins to the 18th century (excluding Mexico, which is discussed in another course), through an analysis of spatial models, environmental qualities, construction and structural models and social uses of space.

MEXICAN ARCHITECTURE	AR 231	Identify art and architectural solutions in Mexico, their techniques and functions corresponding to the influence of climatic, social and cultural, economic, and political factor, until the 19th century.
MODERN ARCHITECTURE	AR 232	Identify the causes of the modern architecture movement, critically based on their contributions and outlining design methods used in the study period, ranging from the 19th century to the first half of the 20th century.
CONTEMPORARY ARCHITECTURE	AR 430	Support the pluralistic condition of contemporary architecture, relating ideological and formal changes to structural and technical innovations, since the mid-20th century to the present.
COMMUNICATION SCIENCE ELECTIVES		
LANGUAGE IN THE IMAGE OF MOVEMENT I	CO 264	The student will start in the analysis of use of the visual language in movement.
INTRODUCTION TO JOURNALISM	CO 122	
GENDER PRODUCTION	CO 231	Master journalistic genres and put them into practice redactándolos professional standards.
JOURNALISTIC WRITING AND STYLE	CO 312	Conceptually master journalistic genres and put them into practice writing them with professional standards.
INVESTIGATIVE JOURNALISM	CO 419	
THEORETICAL COMMUNICATION SCHOOLS	CO 215	The aim of the course is that the student recognize the main features of the theoretical schools of communication. The student can distinguish the authors, assumptions and empirical major studies developed by each of the schools
ELECTIVES IN FINE ARTS		
FUNDAMENTALS OF REPRESENTATION	AP 101	Develop spatial visualization and create a gestural immediacy and I incorporate the principles of representation of spatiality in a two dimensional plane, selected those principles necessary to develop their expressive power. Likewise link and reasoning systems understanding relationship formats to represent objects
TECHNIQUE REPRESENTATION AND MATERIALS	AP 110	Know the different materials and their physical components used in the Plastic Arts and determine the importance of the proper use of the material for its conservation. Likewise, practice basic techniques of pictorial application, practice with different supports and explore knowledge of color theory..

PLASTIC ANALYSIS	AP 131	Identify the three-dimensional space from basics: point, shape and volumetric spaces. Developing creative capabilities understanding through intuitive navigation and basic techniques used in sculpture
SCULPTURE AND MEDIA	AP 233	Configure forms dimensional formal under criteria established by a system of thought, identifying the qualities of the materials, their perceptible appearances, their spatial resolution of sculpture and its context, through the relationship of objects to each other in a logical space Mediate in As part of the sculpture
INTRODUCTION TO PAINTING	AP 251	Develop techniques to display images and objects in different capabilities and spatiality in oil, applying the theory of color and different forms of composition by means of the drawing and basic techniques for effective representation of space the painting
SCOPRES: INSTALLATION	AP 257	Understand and apply the different structures of analysis of the spaces, interpret the installation to build a model, by means of semiotics as a tool and different techniques interventions in specific spaces art, for plastic processing and get projects capabilities interpretation necessary between practice and theory.
ELECTRONIC IMAGE	DV 111	Use the computer as a tool to generate and edit images and text for design projects.
ADVANCED SEMINARS		
ADVANCED SEMINAR I: ART AND SENSE	HU 451	Understand the basis for the study of art and philosophy, from a historical perspective, as a reflection resulting from the evolution of the philosophy of language - and from a thematic perspective, as a key element to understand the paradigm shift that seems to characterize contemporary cultural production and recent
ADVANCED SEMINAR II: MODERNITY AND POST-MODERNITY	HU 452	Analyze the debate Modernity-Postmodernity including its antecedents in the history of ideas as well as their links with humanistic disciplines traditionally isolated from each other (art and philosophy) and its main exponents throughout the twentieth century
ADVANCED SEMINAR: TECHNOLOGY PHILOSOPHY	FI 301	Assess the philosophical relevance of technology as well as the ways in which it has conditioned the organization and performance of human practices
PHILOSOPHER: MICHEL MAFFESOLI	FI 490	Specific philosophy Author: Michel Maffesoli

ADVANCED SEMINAR: VISUAL THINKING VISUAL METAPHORS IN MEDIA DISCOURSE	**HU 453**	Assess the epistemological possibilities of contemporary theory of metaphor for the analysis of the dominant visuality. Analyze metaphors drawn from artistic texts, advertising and film and examine the relevance of their study in the new context of visual studies
ANTHROPOLOGY ELECTIVES		
FUNDAMENTALS OF ANTHROPOLOGICAL THINKING	**AN 202**	Analyze the intellectual history of anthropological thought from Greek and Roman thinkers to the early emergence of the discipline in the 19th century.
CURRENT TRENDS IN ANTHROPOLOGY	**AN 254**	Understand the history of socioanthropological ideas and thought, the development of ethnographic practice, analyzing the ideas of relationship between society and nature during the 20th century. Promote analytical capabilities and oral communication skills of students, for example, their ability to identify ideas and central arguments of a text, and comment and/or debate these in a coherent and understandable way. Finally, encourage written communication skills: the ability to organize one's ideas and present them professionally in grammatically correct prose.
LANGUAGE ELECTIVES		
STUDY OF LANGUAGE	**LA 101**	Operationally manage conceptual and theoretical linguistics in its main areas that are phonology, morphology, syntax, semantics, pragmatics, language change, historical linguistics, language universals and typology. Analyze the systematic principles governing the structure of the fundamental levels of generative grammar. Employ linguistic argument and the process of evaluation and modification of grammatical theories. Apply analytical principles of theoretical linguistic new data
INTRODUCTION TO SOCIO-LINGUISTICS	**LA 102**	Apply models, central concepts and terms of the study of language in its social context. Apply linguistic concepts in the study of the use of language. Diagnose factors influencing the language and its variation as gender, socioeconomic class, education, and family atmosphere. Master the conceptual and operational management of the possible variation in natural language, in one language community as a language in its different communities and the process of language change by speakers at the individual, community and nation

INTRODUCTION TO APPLIED LINGUISTICS	**LA 110**	Acquire basic knowledge about different theoretical approaches and methodologies applied linguistics in its main fields of work, and be able to use this information to delve into the area through the study, research and practical application. Handle the application of scientific theories, the relationship between theoretical linguistics and applied linguistics, the relationship between sociolinguistics and applied linguistics, the relationship between psycholinguistics and applied linguistics and application of linguistics to learning / language teaching . Apply Linguistic work in other fields such as language education, proficiency assessment, language planning, program development language and translation
TRANSLATION THEORY AND PRACTICE	**LA 313**	Master the conceptual and operational management of the main approaches to translation studies. Respect and apply certain translation models in practice, translating a text not literally, but respecting and transmitting its communicative value.

LICENCIATURA IN LANGUAGES

STUDY OF LANGUAGE	**LA 101**	Operationally manage conceptual and theoretical linguistics in its main areas that are phonology, morphology, syntax, semantics, pragmatics, language change, historical linguistics, language universals and typology. Analyze the systematic principles governing the structure of the fundamental levels of generative grammar. Employ linguistic argument and the process of evaluation and modification of grammatical theories. Apply analytical principles of theoretical linguistic new data
SECOND LANGUAGE I	**ID**	
INTRODUCTION TO APPLIED LINGUISTICS	**LA 110**	Acquire basic knowledge about different theoretical approaches and methodologies applied linguistics in its main fields of work, and be able to use this information to delve into the area through the study, research and practical application. Handle the application of scientific theories, the relationship between theoretical linguistics and applied linguistics, the relationship between sociolinguistics and applied linguistics, the relationship between psycholinguistics and applied linguistics and application of linguistics to learning / language teaching . Apply linguistic work in other fields such as language education, proficiency assessment, language planning, program development language and translation

COMMUNICATION STUDIES	CO 115	Understand and argue how the process of communication is a social and cultural phenomenon that has been studied from different perspectives and disciplines. Recognize the different problems that philosophy, sociology, anthropology and psychology have identified linked to the phenomenon of human communication
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	
INTRODUCTION TO SOCIOLINGUISTICS	LA 102	Apply models, central concepts and terms of the study of language in its social context. Apply linguistic concepts in the study of the use of language. Diagnose factors influencing the language and its variation as gender, socioeconomic class, education, and family atmosphere. Master the conceptual and operational management of the possible variation in natural language, in one language community as a language in its different communities and the process of language change by speakers at the individual, community and nation
SECOND LANGUAGE II	ID	
THIRD LANGUAGE I	ID	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
GENERAL STUDIES II	EG	
ACQUIRING LANGUAGE	LA 200	Diagnose child language development. Conceptually and operationally manage the processes and stages in the acquisition of the mother tongue and the language development of some special populations. Apply a comparative model to understand the processes of second language acquisition and bilingualism.
SECOND LANGUAGE III	ID	
THIRD LANGUAGE II	ID	

PEDAGOGICAL GRAMMAR	LA 230	Pedagogical grammar used to make decisions about the most effective approaches to teaching a second language in formal contexts. Master the conceptual and operational management of the theoretical principles of teaching grammar such as the need for different grammatical theories, and the relationship of grammar to the lexicon and discourse. Make practical decisions of teaching a second language related to the implementation of the pedagogical grammar
INFORMATION AND SOCIETY	CO 263	The student will analyze the information disclosed daily by the mass media, interpreted from different social models
GENERAL STUDIES III	EG	
ACQUIRING A SECOND LANGUAGE	LA 202	Understand the topics and theories of second language acquisition and research. Demonstrate knowledge of the main themes, concepts, theories, models and key terms in the field of language acquisition. Interpret and evaluate literature research projects on the acquisition of second languages
SECOND LANGUAGE IV	ID	
THIRD LANGUAGE III	ID	
READING-WRITING	LA 204	Master the conceptual and operational management of literacy within the fields of linguistics and applied as the different theories of literacy. Explain the contributions of psycholinguistics and sociolinguistics to the study of literacy. Demonstrate knowledge of the history of reading and writing and reading and writing as human invention. Apply the models for teaching and learning of literacy in first and second language. Form a vision of the role of literacy in the study of applied linguistics
INDIVIDUAL DIFFERENCES IN LANGUAGE LEARNING	LA 231	Identify key learning differences that exist in learners of second or foreign languages. Planning classes and adapting materials or activities to provide students with different needs to succeed in language learning. The main differences diagnose individuals who may be in second language learners or foreign languages Adapt objectives and course materials to meet the different needs of students. Identify different approaches, techniques and methods that can be applied to individual learners with learning differences
GENERAL STUDIES IV	EG	
CONTRASTING GRAMMAR IN SPANISH AND ENGLISH	LA 300	Master the conceptual and operational management of theoretical knowledge of the differences between Spanish and English regarding phonetics, phonology, morphology, syntax, pragmatics, dialectology and lexis. Diagnose differences in pronunciation of consonants and vowels. Identify different phonological processes of both languages in exercises. Understand production intensity and intonation. Apply the verbal morphology of both languages and differences in times and ways. Use the noun phrases relationship with the morphology and syntax. Diagnose dialectal and social differences of both languages

SECOND LANGUAGE V	ID	
THIRD LANGUAGE IV	ID	
LANGUAGE TEACHING METHODS	LA 310	Make decisions about the most effective approaches to teaching a second language in formal contexts. Master the conceptual and operational management of the theoretical principles of teaching grammar such as the need for different grammatical theories, and the relationship of grammar to the lexicon and discourse. Make practical decisions in teaching a second language related to the implementation of teaching grammar
ACADEMIC WRITING IN A SECOND LANGUAGE I	LA 311	Acquire the ability to produce academic texts in English. For each item of content included in the course, make extensive and intensive exercises. Read and analyze various published texts. Acquire writing skills according to the genre of the text. Produce their own academic texts. Practice rhetorical skills
EDUCATIONAL TECHNOLOGIES	LA 330	Integrate the innovative use of information technology and communication in the tasks performed in schools, and the like in all kinds of materials. Material design as a tool in the teaching-learning as a vehicle for communication and access to information. Enhance cognitive development and learning through innovative tools that support the development of skills, abilities and knowledge acquisition. Promote the use and rational and critical development of different educational resources. Develop the ability to access, organize and manage information. Search, select and evaluate available information and use that information as an educational resource. Using the new tools and new media to communicate and to post information to potentially unlimited audience. Provide technical support and training appropriate to use new technologies as teaching resources and as a means of renewing the educational methodology to improve the quality of education at all educational levels and areas of the curriculum
BILINGUAL EDUCATION	LA 331	Apply knowledge of language acquisition, psycholinguistics, sociolinguistics and bilingualism in formal educational settings. Analyze components of models of bilingual education. Explain arguments for and against bilingual education. Compare bilingual education systems in Mexico and other countries. Choosing and designing materials and bilingual education programs to the needs of context
SECOND LANGUAGE VI	ID	
TRANSLATION THEORY AND PRACTICE	LA 313	Master the conceptual and operational management of the main approaches of translation studies. Translatological respect and implement certain models in practice, not literally translating a text, but respecting and transmitting their communicative value

ACADEMIC WRITING IN A SECOND LANGUAGE II	LA 314	Write a 2,500-word academic report or article in English following the requirements established for this course. Apply the skills and knowledge acquired in LA 311 to complete an investigation work carried. Increase understanding of academic texts. Develop the Academic writing when making a report or article. Prepare the student for academic work used at the professional or graduate level
GENERAL STUDIES V (CO-CURRICULAR)	EG	
FOURTH LANGUAGE I	ID	
LANGUAGE AND COMPUTERS	LA 420	Master the conceptual and operational management theories and knowledge about the computer in applied linguistics, and the use of language for the design of computational tools. Apply models natural language processing. Create materials for language acquisition computer. Running the parcel for text analysis through the corpora
SECOND LANGUAGE VII	ID	
THIRD LANGUAGE V	ID	
CURRICULUM AND EVALUATION	LA 430	Identify, as well as elaborate the main types and components of the different study plans. Evaluate the progress of the Foreign Language students and the effectiveness of the program depending on the focus of the curriculum. Write study plans based on the different points of view of the different educational philosophies and of the evaluation used in the teaching of second languages and Foreign languages. Apply specific types of second language and foreign language program designs and their evaluation in real exercises and simulations.
PRACTICUM I	LA 411	Diagnose the working life of the various institutions and professionals in the field of applied linguistics and perform in the professional field of applied linguistics. Have contact with professional practice in their area of preference: teaching a second language, bilingual education programs, program development language or translation work. Apply the methods and techniques learned during teaching career in projects or the corresponding area of practice. Teaming up with experts in their field and participate in real situations of professional work
FOURTH LANGUAGE II	ID	
SOCIAL RESPONSIBILITY	RS 498	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.

GRADUATION PROJECT I	LA 498	Have direction in the development of your thesis, and learn to design research at a professional level. Define and methodologically analyze a specific applied linguistics problem; apply the scientific method to any research situation in the area; develop instruments and apply procedures in the investigation of a specific problem; to reliably evaluate and critique the research data and the research already published in the study area; develop formal proposals and present them, by learning to process feedback and take advantage of it for the best performance of your thesis proposal development process. Plan and implement pilot tests for the experimentation of some aspect of the thesis.
INTERNATIONAL COMMUNICATION	CO 337	The student will recognize the arguments in discussions of international communication and distinguish the characteristics of communication between nations and cultures
THIRD LANGUAGE VI	ID	
FOURTH LANGUAGE III	ID	
GRADUATION PROJECT II	LA 499	Develop a thesis, and through it design studies and finalize a Graduation Project. Design a Graduation Project II to answer the research questions raised in LA 498; implement the project, analyze the data, evaluate the results, analyze and criticize their own research process, apply knowledge to real situations, write in a logical and coherent manner, defend the work
FOURTH LANGUAGE IV	ID	
ELECTIVES		
SIGN LANGUAGE LINGUISTICS	LA 312	Mastering the conceptual and operational management of the structure of sign languages, as well as the differences and similarities between the visual-gestural and acoustic-oral modalities. Begin to handle a language structurally different from Indo-European and its linguistic structure. Argue about signaled language within the context of universal language, the effects of modality on language structure, and the effects of modality on language processing. Diagnose the main challenges and problems of the deaf community. Begin to manage the historical development of the designated languages.
LINGUISTIC PLANNING AND POLICIES	LA 321	Conceptually manage how the use, promotion and inhibition of languages is planned by the interests of society. Argue about current policies and practices and propose alternatives based on the theoretical and historical knowledge presented in the course. Diagnose current policies at the individual, institutional and societal levels. Identify orientations in examples of language planning (intentional and unintentional). Explain your vision of linguistic human rights. Argue about the effect of industrialization and globalization on linguistic vitality and the preservation of linguistic diversity. Identify examples of linguistic ideology and conceptually apply its effects in language planning. Apply theoretical and historical knowledge to criticize policies and

		propose alternatives in educational, labor and governmental contexts.
LITERARY MODELS: FICTION	**LI 154**	The subject is devoted to the study of basic fiction genres: the epic (the Mesopotamian and classical epic), the novel and the short story. The student will understand narration and theories on these genres as working instruments that facilitate, on the one hand, establishing structural and thematic distinctions between them and, on the other hand, the description and interpretation of paradigmatic narrative works, from the Mesopotamian epic until novels and current stories of the western world, going through the classic epic. The analysis of the selected works will be carried out considering the historical context in which they are produced and also the most relevant critical literature on them
LITERARY MODELS: POETRY	**LI 254**	Build with students the theoretical and methodological elements to analyze poetry
LITERARY MODELS: ESSAY	**LI 255**	The student will analyze the test models from Montaigne to today and assess the contributions of Hispanic Americans and Mexican essay writers.

CIVIL ENGINEERING

BASIC MATH	**MA 111**	Solve problems by using basic math concepts and techniques and efficiently operate the set algebra in solving problems of their professional practice. Algebra concepts used to construct graphs of functions related to current problems
GENERAL STUDIES I	**EG**	
THOUGHT AND LANGUAGE	**PC 114**	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	**ID**	
INTRODUCTION TO CIVIL ENGINEERING	**IC 100**	Develop critical thinking and direct their creativity to the creation of infrastructure. Identify applications and relevant cases in different areas of Civil Engineering
COMPUTER ASSISTED DRAWING	**IC 110**	Identify and use AutoCAD software tools for solving two-dimensional drawing such as the development of various levels, and further master the basic commands for three-dimensional drawing.

CALCULUS I	MA 130	Apply differential calculus in problem solving and decision making, through the solution of different exercises such as: determining the domain of a given function, finding the linear approximation of a function at a given point and drawing the graph of a function, determine its asymptotes, maxima, minima, and inflection points.
LINEAR ALGEBRA	MA 127	Use the fundamental concepts of linear algebra. Also distinguish and solve different systems of linear equations
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
CONSTRUCTION MATERIALS	IC 112	Identify and manipulate the various materials involved in construction and describe processes of production and manufacturing emphasizing the importance of quality control
CONSTRUCTION MATERIALS LAB	IC 113	Identify and distinguish the main properties of the most important materials in the construction industry, establishing the relationship of these with the role in a play and quality control
CALCULUS II	MA 132	Master basic integration techniques choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc.
ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java
SECOND LANGUAGE III	ID	
CONSTRUCTION EQUIPMENT	IC 200	Identify, operate and organize heavy duty equipment involved in high-volume works in civil engineering

TOPOGRAPHY	IC 211	Identify the importance of topography and how to use its methods and instrumentation in planning, design, construction and operation of infrastructure responsibility Civil Engineering
TOPOGRAPHY LAB	IC 212	Master the use of traditional instruments and survey tools for surveying planimetry and altimetry field
ORDINARY DIFFERENTIAL EQUATIONS	MA 227	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
NUMERICAL METHODS	MA 318	Learn elementary numerical methods for approximation of solutions, annotation and estimation of errors in a wide range of mathematical problems: resolution of linear and non-linear equations, numerical interpolation and integration, as well as solution of differential equations. Mathematically model a situation and solve problems with mathematical techniques using those numerical methods that best fit the given characteristics. Know how to discern which of a range of numerical methods is the most appropriate when solving a given problem, depending on the characteristics that concur. Find appropriate intervals to numerically approximate zeros of nonlinear functions. Solve linear systems using direct and iterated methods
STATICS	IC 240	Operate systems of concurrent, coplanar, parallel and collinear forces, both in the plane and in space. Analyze the static equilibrium of particles and the external equilibrium of rigid bodies. Obtain centers of gravity of lines, areas, volumes, loads distributed in beams and pressures on submerged surfaces and identify the different types of support and connection for rigid bodies both in the plane and in space.
GENERAL STUDIES II	EG	
CONTRUCTON PROCEDURS IN BUILDINGS	IC 221	Distinguishing basic building systems as well as the logical sequence of the construction process, operate the building regulations in force, and the use of specifications and requirements for processing construction licenses
GEOMETRIC ROAD DESIGN	IC 226	Describe the planning process and geometric design of a road based on standards and specifications identify elements of a land and its general design considerations

GEOMETRIC ROAD DESIGN LAB	IC 227	Build a geometric design project. Geometrically design a road section with the support of surveying equipment and specialized computer package
PROBABILITY AND STATISTICS	AE 255	Define the basic terminology used in the statistics. Construct a table of frequencies and interpret. Represent and interpret a set of data graphically and numerically way. Apply the concepts of probability to calculate probabilities of events. Interpret practical problems associated with random variables, and set their probability distributions, as well as means and variances for both discrete and continuous cases. Distinguish the different sampling distributions. Estimating population parameters using point estimates and confidence intervals and interpret the results. Make inferences about population parameters by testing hypotheses and interpret their results
GENERAL HYDRAULICS	IC 370	Solve problems related to Civil Engineering applying the essential knowledge of Hydraulic Engineering
GENERAL HYDRAULICS LAB	IC 371	Analyze and solve problems using hydraulic experimental methodology.
MATERIAL BEHAVIOR I	IC 330	Establish the basis of the qualitative and quantitative analysis of deformable solids to determine their behavior, strength, stiffness and stability to various stresses and/or combinations thereof, such as pure axial load, shear force and bending moment. Likewise, to obtain the states of deformation and stress deformable solids subjected to stresses previously said
ECONOMIC ENGINEERING	II 390	Apply various financial techniques to analyze requirements and investment projects, choosing alternatives with higher yields and consistent with the strategic planning of the company
FACILITIES	IC 360	Interpret blueprints of basic facilities, using current construction regulations and executive presentation to the relevant units
GEOTECHNICAL ENGINEERING I	IC 350	Identify and categorize the different types of soils, to distinguish their hydraulic, plastic and granulometric properties, to determine the behavior of the ground under various conditions of effort and hydraulic flow
GEOTECHNICAL ENGINEERING LAB I	IC 351	Develop various laboratory tests on different soil types and interpret the results
GENERAL STUDIES III	EG	
HYDROLOGY	IC 374	Employ essential knowledge to solve engineering problems related to the application of surface hydrology and groundwater
HYDROLOGY LAB	IC 375	Use experimental methodology to analyze and solve problems Hydrology surface and groundwater in Civil Engineering

MATERIAL BEHAVIOR II	IC 332	Establish the basis of the qualitative and quantitative analysis of the deformable solid to determine its behavior, strength, stiffness and stability to various stresses and/or combinations thereof, such as torque, axial load and bending, axial load and torque to which they must previously determined generalized stress states and deformation
ISOSTATIC STRUCTURES	IC 342	Identify the various structural elements and their internal and external linkages within the framework of its structural composition and structural systems classified according to their spatial idealization. Solve various problems such as: determine variability and kinematic invariance planes structural systems and its degree of hyperstaticity; also, other analyzes under different conditions
CONSTRUCTION COSTS	IC 385	Calculate direct and indirect costs, starting from the base of quantification, knowledge of the legal framework and the yields of both materials, equipment and labor, also put together a package of competition as a final project
CONSTRUCTION COSTS LAB	IC 386	Solve practical problems concerning construction costs with the help of software to identify a faster way to make use of the tools required for this cost
GEOTECHNIC ENGINEERING II	IC 352	Describe the process of consolidation of soils, determining the settlements. Distinguish the concept of shear, identifying the parameters that define the behavior of solving the mass of soil in situations thrust load capacity for shallow foundations, slope stability and compaction
GEOTECHNIC ENGINEERING LAB II	IC 353	Assess the capacity of a soil by applying classic and modern laboratory tests
INTRODUCTION TO ENVIRONMENTAL ENGINEERING	IC 402	Identify the main types of pollutants in water, soil and atmosphere, as well as traditional and emerging technologies used for control, and thus demonstrate the relevance of Environmental Engineering in the professional performance of civil engineer
INTRODUCTION TO ENVIRONMENTAL ENGINEERING LAB	IC 403	Distinguish the main types of pollutants in water, soil and atmosphere as well as their sources and traditional and emerging technologies used for control
HYDRAULIC DESIGN	IC 404	Master the essential knowledge for analysis, design and selection of pumps and hydraulic turbines and hydraulic design of spillways, stilling basins and headworks
DRINKING WATER AND SEWAGE SYSTEMS	IC 401	Identify, analyze and design the components of a system of potable water, sanitary sewer and storm sewer

MATRIX ANALYSIS OF STRUCTURES	**IC 410**	Use the matrix method of stiffnesses (displacement method) for analysis of lattices flat and symmetrical flat reticular structures analyze, asymmetrical, such as trusses, beams and frames, using the matrix method of rigidities. Construct the corresponding pattern to the deformed structure based on the calculation of the nodal displacements and build the corresponding diagrams of respective internal actions
CONSTRUCTION PROJECT MANAGEMENT	**IC 406**	Substantiate the need and steps to carry out the management of a project of the construction industry and design for a project of the construction industry, the organization necessary to carry out (construction, planning, scheduling and control). Plan risk management for a project of the construction industry and explain the need for quality assurance in a project for the construction industry
PAVEMENT STRUCTURE AND CONSERVATION	**IC 408**	Develop theories and techniques to analyze, design, build and maintain flexible and rigid pavements
PAVEMENT STRUCTURE AND CONSERVATION LAB	**IC 409**	Identify and test methods used to characterize the physical properties of asphalts and alkaline materials used in road construction and earthworks
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
WATER TREATMENT	**IC 411**	Identify treatment needs of drinking and wastewater municipal, and inform the design of traditional treatment trains that allow a particular use of each
WATER TREATMENT LAB	**IC 412**	Use laboratory equipment to assess the various parameters of the quality of the water and wastewater
HYDRAULIC DESIGN	**IC 414**	Implement essential knowledge to hydrological analysis and design of dams for multipurpose storage, structural and nonstructural measures for flood control; analyze and design hydrologically hydroelectric plants, as well as culverts and bridges

STEEL DESIGN	**IC 413**	Identify and apply the theoretical and experimental criteria that design methods are based on recent efforts strength steel structural members. Likewise, interpret the rules of design of structural steel elements according to the Building Regulations of the Federal District and the standards and specifications of the American Institute for Steel Construction (American Institute for Steel Construction, AISC).
WIND ANALYSIS AND MASONRY STRUCTURES	**IC 415**	Evaluate and calculate structural elements due to dead and live loads; efficiently operating procedures for the design of masonry and applying the criteria of wind analysis in various structures
DESIGN IN REINFORCED CONCRETE	**IC 417**	Identify, based on empirical results, the behavior and failure mechanism of reinforced concrete elements subjected to common stresses. Likewise, experimental set theoretical criteria on which the method is based ultimate strength, and apply for determination of resistance to the dimensioning of both structural elements reinforced concrete
GRADUATION PROJECT I	**IC 490**	Develop professional work using methods, knowledge and skills acquired during their stay in college and particularly in Civil Engineering
GENERAL STUDIES V (CO-CURRICULAR)	**EG**	
CIVIL ENGINEERING SEMINAR	**IC 429**	Relate the knowledge acquired in their studies with the actions of the Civil Engineer in its various areas of professional competence
STRUCTURAL ANALYSIS AND DESIGN BY COMPUTER	**IC 423**	Use a specialized computer program to analyze structural design and solve various practical examples. Likewise, efficiently operate the criteria for seismic structural analysis using a computer program
SEISMIC ANALYSIS AND DESIGN	**IC 425**	Understand the origin and causes of earthquakes, their effects on buildings, the behavior of materials and structural systems to seismic action. Likewise, efficiently pray criteria for seismic analysis of structures with static and dynamic method according to Complementary Technical Standards the Federal District and identify existing seismic damage buildings and structuring criteria sismorresistente
FOUNDATIONS	**IC 427**	Apply the concepts of capacity and structural design to solve problems of shallow foundations. Analyze differential settlements and distinguish the different treatment techniques and improvement of difficult soils concluding with the design according to the current regulations of structural elements of shallow foundations

GENERAL STUDIES IV	EG	
GRADUATION PROJECT II	IC 492	Develop a professional work using methods, knowledge and skills acquired during their stay in college and particularly in Civil Engineering

ELECTRONIC ENGINEERING AND INTELLIGENT SYSTEMS

GENERAL STUDIES I	EG	
ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java.
INTRODUCTION TO ELECTRONIC ENGINEERING	IE 101	Master the basic concepts and techniques of electronic engineering, from the analog and digital perspective; allowing the student to describe the applications and potential of the study area in question, as well as the resources for its development.
INTRODUCTION TO ELECTRONIC ENGINEERING LAB	IE 102	Experimentally check the basic concepts and techniques of electronic engineering, both from the analog perspective, and from a digital perspective; allowing the student to know the applications and potential of the study area in question, as well as the resources for its development.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
GENERAL STUDIES II	EG	
CALCULUS	MA 130	Apply differential calculus in problem solving and decision-making through solving different exercises such as determining the domain of a given function, find licker linear approximation of a function at a given point and draw the graph a function, determine their asymptotes, maximum, minimum and inflection points

LINEAR ALGEBRA	**MA 127**	Handle the fundamental concepts of linear algebra. Also distinguish and solve different systems of linear equations
DIGITAL CIRCUITS	**IE 103**	Master logical reasoning methods for analysis and design of digital circuits. In addition simulate, analyze, design and implement digital circuits with computer programs. properly handle tools for designing digital circuits
DIGITAL CIRCUITS LAB	**IE 104**	Design and analyze digital circuits with specialized computer programs. Complementing the theory of digital circuits with the design and evaluation of digital circuits with VHDL program. Demonstrate mastery of tools for designing digital circuits
PROFESSIONAL WRITING	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	**ID**	
CALCULUS II	**MA 132**	Master basic integration techniques and choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
DATA STRUCTURES I	**IS 117**	Design and program with object-oriented software. Apply design techniques and notation UML (Unified Modeling Language) and Java programming language. Understand and manage the main mechanisms for creating, maintaining and search for information on static data structures
MECHANICS	**FS 220**	Identify and distinguish intuitively and analytically the phenomena of classical mechanics and place them according to the vision acquired in the course, equally, interpret the processes studied and translate them into the language of mathematics to quantify processes. Compare everyday situations to abstract the phenomena studied in this course and solve basic problems on the content of the same
MECHANICS LAB	**FS 221**	Develop experiments that allow the student to interpret the physical phenomena of classical mechanics

CIRCUITS I	IE 220	Analyze and design electrical circuits involving capacitors resistors, inductors, dependent and independent sources and steady state sinusoidal signals
CIRCUITS LAB I	IE 223	Simulate, analyze and implement basic electrical circuits. Master how to interconnect the various elements of an electrical circuit (resistors, capacitors, inductors, power sources and operational amplifiers) and test using the oscilloscope and multimeter
SECOND LANGUAGE III	ID	
VECTORIAL CALCULUS	MA 230	Pose, solve and interpret problems involving the concepts of history, vectors, velocity, acceleration, tangent, normal and binormal. Handle and interpret the concepts of gradient, divergence and rotation and their interrelationships. Pose, solve and interpret problems involving line integrals and surface. Manage and interpret the theorems of Green, Stokes and Gauss divergence. Calculate the gradient, divergence and rotational in rectangular coordinate systems, cylindrical and spherical
ORDINARY DIFFERENTIAL EQUATIONS	MA 227	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
ELECTROMAGNETISM	FS 320	Analyze electromagnetic phenomena. Solve exercises related to electric charge, electromagnetic field, electric potential, capacitance, resistance, Electric Circuits, magnetic induction, and electromagnetic circuits. Interpret electrical and magnetic phenomena and the combination of both, expressing them in mathematical form. Compare situations in daily life with the phenomena analyzed and solve basic problems on the topics discussed
ELECTROMAGNETISM LAB	FS 321	Experimentally check the physical phenomena of electricity and magnetism through Laboratory Practices. Prove Maxwell's laws experimentally, as well as Faraday's induction effect

CIRCUITS II	**IE 222**	Apply the Laplace transform in circuit analysis. Applying the concept of transfer function of electrical circuits and parts: impulse response, convolution, poles and zeros. Using the concept of frequency response of electric circuits for filtering signals by equations, software simulation and graphics. Analyzes and circuit cascade connection circuits by using several parameters two-port networks. Obtain frequency representation for periodic signals by Fourier series and non-periodic signals by Fourier transform
CIRCUITS LAB II	**IE 224**	Measure the effects experienced by signals in electrical circuits and its dependence on frequency: attenuation of the peak value and phase shift of a sinusoidal signal. Implement a circuit from its transfer function and interpret their behavior as filter frequency. Experimentally obtaining the frequency content of an electrical signal
ELECTRONICS I	**IE 250**	Apply the principle of driving semiconductor materials and operation of the diode. Three semiconductor devices are studied: DIODE, BJT Transistor PNP and NPN in arrangements, and JFET channel and channel arrangements N P. For each device, the master different physical description of their behavior, relationship between the voltage and current terminals, operating modes and the use of simple models for rapid analysis circuit direct current and linear circuits in small signal, some applications, polarization techniques and operating point for the use of the BJT transistor amplifiers with arrangements emitter, base and collector common and for the use of the JFET transistor amplifiers with drainer arrangements and common supplier
ELECTRONICS LAB I	**IE 251**	Using electronic devices in the circuitry design for signal amplification and applications in these devices operate as switches
GENERAL STUDIES III	**EG**	

PROBABILITY AND STATISTICS	**AE 255**	Define the basic terminology used in the statistics. Construct a table of frequencies and interpret. Represent and interpret a set of data graphically and numerically way. Apply the concepts of probability to calculate probabilities of events. Interpret practical problems associated with random variables, and set their probability distributions, as well as means and variances for both discrete and continuous cases. Distinguish the different sampling distributions. Estimating population parameters using point estimates and confidence intervals and interpret the results. Make inferences about population parameters by testing hypotheses and interpret their results
COMMUNICATION SYSTEMS	**IE 335**	Distinguish, explain and apply the basics of radio communications and modulation techniques for describing the operation of communications systems. Distinguish, explain and outline the operation and architecture of the most common communication systems: Local Telephony (PSTN), cellular telephony, satellite communication fiber optics. Exemplify and illustrate these communication systems grounded in the Internet system as a case study of the implementation of various communication facilities
ELECTRONICS II	**IE 350**	Develop the ability to analyze and design analog electronic circuits in power applications. Master the techniques of analog circuit design amplifier circuits for applications
ELECTRONICS LAB II	**IE 353**	Complement the theoretical course by developing laboratory practices. Design and analyze amplifier circuits using computational tools. Master design techniques to analyze analog circuits made in laboratory
MICROCONTROLLERS AND MICROPROCESSORS	**IE 374**	Analyze, design and implement digital systems based on microcontrollers and microprocessors. In addition to demonstrating that uses logical reasoning methods in the analysis and design applications. Handling tools for designing systems with microprocessors and microcontrollers
MICROCONTROLLERS AND MICROPROCESSORS LAB	**IE 377**	Complement the theoretical course by developing laboratory practices. In addition to mastering computational design techniques to develop applications in circuits with microcontrollers and check its operation

ELECTROMAGNETIC THEORY	**IE 380**	Describe and explain Maxwell's equations and interpret them to identify their physical meaning. Describe, compute and predict the behavior of uniform plane waves as they propagate through possibly different means. Explain and predict wave propagation in a transmission line. Use the Smith chart to solve problems of transmission lines
NUMERICAL METHODS	**MA 318**	Learn elementary numerical methods for approximation of solutions, annotation and estimation of errors in a wide range of mathematical problems: resolution of linear and non-linear equations, numerical interpolation and integration, as well as solution of differential equations. Mathematically model a situation and solve problems with mathematical techniques using those numerical methods that best fit the given characteristics. Know how to discern which of a range of numerical methods is the most appropriate when solving a given problem, depending on the characteristics that concur. Find appropriate intervals to numerically approximate zeros of nonlinear functions. Solve linear systems using direct and iterated methods
INTELLIGENT SYSTEMS I	**IE 328**	Master and apply the techniques based on Fuzzy Logic foundations for the design of control systems and computerized decision-making
INTELLIGENT SYSTEMS LAB I	**IE 329**	Classify and program knowledge-based techniques and apply the foundations of Fuzzy Logic for the design of Computerized Control and Decision-making Systems.
ELECTRONIC INSTRUMENTATION	**IE 354**	Distinguish and apply the basic concepts of measurement and identify enters the main functions performed by measuring instruments. In addition to classifying most used sensors for measuring physical variables used in the industry such as: temperature, position, motion, pressure, level and flow. Analyze a set of specifications for alternative identify and select the best among them to solve specific problems of process instrumentation
ELECTRONIC INSTRUMENTATION LAB	**IE 355**	Apply the concepts of electronic instrumentation to design measuring instruments, experimentally checking the behavior of the most common translators.
ELECTRICAL MACHINES	**IE 356**	Master the basic principles of operation and control of machines DC machines, transformers and AC. Master different types of connection and construction of electrical machines. Control the various parameters associated to electrical machines

ELECTRICAL MACHINES LAB	IE 357	Apply the knowledge acquired in the Electrical Machines course. Check the operating principles of the most common electrical machines, examining their characteristics and accustomed to observing safety standards applicable to this type of equipment while some of the basic test methods apply. Master different connection types of electrical machines. Control the various parameters associated to electrical machines
RECONFIGURABLE SYSTEMS I	IE 378	Analyze, design and implement processors configured to suit the application requirements. Demonstrate that uses logical reasoning methods in the analysis and design applications embedded in a configurable integrated circuit. properly handle tools for designing digital circuits including configurable integrated
RECONFIGURABLE SYSTEMS LAB I	IE 379	Analyze, design and implement processors configured to suit the application requirements. Demonstrate that you use logical reasoning methods in the analysis and design of applications embedded in a configurable integrated circuit. Properly handle the tools for the design of configurable integrated integrated digital circuits.
GENERAL STUDIES IV	EG	
ANALOGICAL SIGNAL PROCESISING	IE 400	Master the theory of the active filter design in different configurations. In addition to solving and simulate circuits with passive elements RC Active Filters
ANALOGICAL SIGNAL PROCESISING LAB	IE 401	Master the different approaches (Butterworth, Chebyshev and Elliptical) in the design and implementation of passive and active analog filters.
CONTROL THEORY	IE 440	Develop the ability to model, analyze and design analog control systems
CONTROL THEORY LAB	IE 441	Model, analyze and design analog control systems. Complementing the theory by developing experiments concepts become evident in developments classic control
INDUSTRIAL ELECTRONICS	IE 450	Apply knowledge of power electronics in solving industrial problems involving instrumentation and process control. Analyze and measure electronic circuits power converters under real operating conditions. Relate and apply knowledge of power electronics circuit theory, control, and instrumentation

INDUSTRIAL ELECTRONICS LAB	**IE 451**	Apply knowledge of power electronics in solving industrial problems involving instrumentation and process control. Implement circuits power electronic converters under real operating conditions. Relate and apply knowledge of power electronics circuit theory, control, and instrumentation
RECONFIGURABLE SYSTEMS II	**IE 472**	Design real-time operating systems for reconfigurable digital systems. Use design tools available on the market. Implement real-time systems with reconfigurable logic (FPGAs) and microprocessors and microcontrollers
RECONFIGURABLE SYSTEMS LAB II	**IE 478**	Analyze, design and implement real-time operating systems for reconfigurable digital systems. Show that you know the design tools available on the market. Demonstrate that you use logical reasoning methods for the analysis and design of real-time systems with reconfigurable logic (FPGA's).
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
DIGITAL SIGNAL PROCESSING	**IE 422**	Master processing techniques in the time domain to analyze and design digital systems as well as handle the concepts of fast Fourier transform in time and frequency. Make and design digital IIR and FIR filters by placing poles and zeros in the complex plane, and determining the impulse response FIR filter with linear phase, and bilinear transformation
DIGITAL SIGNAL PROCESSING LAB	**IE 431**	Complement the theory by experimental verification of digital circuits for signal processing and signal analysis show the time and frequency domain. Implement digital processing systems using different topologies. In addition obtain spectral harmonic content of discrete signals through Fourier series for periodic discrete-time signals
COMPUTER NETWORKS I	**IE 432**	Master, design and operate a network of computers on the Internet. In addition understand the different topologies, arrangements and network configurations
COMPUTER NETWORKS LAB I	**IE 433**	Analyze the protocols of local area networks, wired and wireless. Design networks with typical star and ring topologies
DIGITAL CONTROL	**IE 442**	Distinguish and apply the fundamental concepts for the design of linear digital PID controllers in phase compensation and the state space. Justify the use of Z transform as a programming strategy and methodologically design digital control systems that match a set specifications and restrictions

DIGITAL CONTROL LAB	IE 443	Apply and relate the digital control theory with other fields of expertise. Complement the knowledge of the theoretical course of Digital Control through the design and experimental verification of the behavior of digital controllers
INTERPHASES AND DIGITALES SYSTEMS	IE 470	Analyze, design and implement digital systems based on microprocessors and microcomputers. Demonstrate that you use the methods of logical reasoning in the analysis and design of applications in microprocessors and microcomputers. Adequately handle the tools for the design of systems with microprocessors and microcomputers. Efficiently design the interfaces of the peripherals required in the microcomputers. Properly program the typical configurable interfaces available on the market.
INTERPHASES AND DIGITALES SYSTEMS LAB	IE 474	Analyze, design and implement digital systems based on microprocessors and microcomputers. Demonstrate that you use the methods of logical reasoning in the analysis and design of applications in microprocessors and microcomputers. Adequately handle the tools for the design of systems with microprocessors and microcomputers. Efficiently design the interfaces of the peripherals required in the microcomputers. Properly program the typical configurable interfaces available on the market.
GRADUATION PROJECT I	IE 498	Analyze and evaluate the practical problems encountered in the design of an electronic system used to control and/or communications systems in general. Recognize their own creative and self-learning ability and apply the knowledge acquired throughout their degree
GENERAL STUDIES V (CO-CURRICULAR)	EG	
INTELLIGENT SYSTEMS II	IE 428	Apply Neural Networks to the solution of engineering problems: Pattern Recognition, function approximation and Signal Processing. Know different architectures of Neural Networks and their learning mechanisms with an emphasis on the mathematical analysis of Neural Networks. Use different methods for Neural Networks training.

INTELLIGENT SYSTEMS LAB II	**IE 429**	Analyze, design and implement digital systems based on microprocessors and microcomputers. Demonstrate that uses logical reasoning methods in the analysis and design of microprocessors and microcomputers applications. properly handle the tools to design systems with microprocessors and microcomputers. efficiently design peripheral interfaces required in microcomputers. properly program the typical configurable interfaces available on the market
COMPUTER NETWORKS II	**IE 434**	Analyze methods of congestion control, traffic engineering in MPLS networks, quality of service and Internet security
GRADUATION PROJECT II	**IE 499**	Develop physical implementation or, where applicable, to conclude the investigation of theoretical work as well as the written report and the presentation of that work before the jury appointed by the department
ELECTIVES		
DIGITAL COMMUNICATION	**IE 392**	Master the theory of digital communications for application in the analysis and evaluation of the performance of a signal transmission system
DIGITAL COMMUNICATION LAB	**IE 393**	Complement the knowledge built in the theoretical course of digital communications, by means of the experimental verification of the modular circuits and demodulators of digital formats. In addition to the analysis and performance of a digital communications system.
OPTIC COMMUNICATION	**IE 456**	Master and interpret the fundamental theory of optical communications and its application in the analysis and evaluation of the performance of a signal transmission system for optical channel
OPTIC COMMUNICATION LAB	**IE 457**	Complement the knowledge acquired in the theoretical course of optical communications by means of the experimental verification of the different circuits to modulate and demodulate signals transmitted through light; in addition to the analysis and performance of an optical communications system.
INFORMATION TECHNOLOGIES I	**IE 489**	Design, administer and manage networks and telecommunication systems. Design and efficient hierarchical topologies that have a good performance in the industrial and practical level. Apply the theory on practical aspects of policy implementation network management as well as install and physical media devices that form the network

INFORMATION TECHNOLOGIES I	**IE 493**	Complement the knowledge acquired in the theoretical course of Information Technology I by experimental verification of the behavior of different network devices. Design and implement networks with different topologies and hierarchies
INFORMATION TECHNOLOGIES II	**IE 492**	Design, administer and manage telecommunication systems, structures and focused on intermediate and advanced network configurations. Install and configure network devices from the physical layer and verify performance and possible errors
INFORMATION TECHNOLOGIES LAB II	**IE 494**	Complement the knowledge acquired in the theoretical course of Information Technologies II by experimental verification of the behavior of different network devices. Advanced programming networks with complex topologies using advanced network protocols

FOOD ENGINEERING

INTRODUCTION TO FOOD ENGINEERING	**IA 100**	Discover the different application fields of Food Engineering, distinguish the main factors responsible for the deterioration of food and combine theory and practice for the preservation of foods representative
BASIC MATH	**MA 111**	Solve problems by using basic math concepts and techniques and efficiently operate the set algebra in solving problems of their professional practice. Algebra concepts used to construct graphs of functions related to current problems
CHEMISTRY FUNDAMENTALS	**QC 101**	Handle basic knowledge of chemistry, both phenomenologically as the elements and compounds in chemical reaction, explaining the behavior of matter based on atomic theory and other subsequent theories related to chemical bonds and the molecular geometry.
CHEMISTRY FUNDAMENTALS LAB	**QC 105**	Use laboratory materials and chemicals. Apply the knowledge gained to calibrate volumetric instruments and prepare solutions of different concentrations. Similarly, establish the performance of a chemical reaction based on the amounts of products produced.

THINKING AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
GENERAL STUDIES I	EG	
MATERIAL BALANCE	IQ 210	Develop a clear and systematic methodology to formulate and solve material balances for different processes.
FOOD PRODUCTS AND PROCESSES LAB	IA 111	Learn to identify terminology, management and common methodology in Food Engineering, using a combination of theoretical and practical explanations of laboratory instruments of instruction and motivation
LINEAR ALGEBRA	MA 127	Use the fundamental concepts of linear algebra. Also distinguish and solve different linear equations systems
CALCULUS I	MA 130	Apply differential calculus in problem solving and decision making, through the solution of different exercises such as: determining the domain of a given function, finding the linear approximation of a function at a given point and drawing the graph of a function, determine its asymptotes, maxima, minima, and inflection points.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
ENERGY BALANCE	IQ 212	Develop a clear and systematic methodology to formulate and solve energy balances for different processes
THERMOPHYSIC PROPERTIES LAB I	IQ 215	Get skill in handling laboratory equipment and accessories, as well as the interpretation of the results obtained relate knowledge in the course of Energy Balances
FUNDAMENTALS OF BIOLOGY	BL 102	Understand the science of biology emphasizing modern ideas about the phenomenon of life. Unity, diversity and emergent properties in physicochemical and evolutionary context

CALCULUS II	MA 132	Master basic integration techniques choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
ORGANIC CHEMISTRY I	QC 223	Distinguish and meet different functional groups and structures of organic compounds and identify various organic reactions and their mechanisms. Also, properly handle the nomenclature, stereochemistry, structure and reactivity in acid-base processes
ORGANIC CHEMISTRY LAB I	QC225	Develop the necessary skills and identify the basic material required for any organic chemistry laboratory. Use such material separation, purification and identification of organic substances. Apply all safety requirements for work in the laboratory
SECOND LANGUAGE III	ID	
FOOD MICROBIOLOGY I	IA 230	Describe and compare the structures of eukaryotic and prokaryotic cells. Also, learn to classify microorganisms according to their nutritional requirements and propose methods of isolation, culture, detection and enumeration for different types of microorganisms
THERMODYNAMIC PROPERTIES OF FOOD	IA 240	Understand and apply the fundamentals of thermodynamics and its relation to processes and reactions occurring in foods; also apply the theory studied in the practical concepts course to explain the evolution of biotechnological processes depending on the energy changes
FOOD BIOCHEMISTRY I	IA 222	Learn to identify the main types of molecules constituting living beings and therefore food. In addition, identify components of molecular proteins, carbohydrates, lipids, nucleic acids and know the functions of the different molecules in living beings
ORDINARY DIFFERENTIAL EQUATIONS	MA 227	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
GENERAL STUDIES II	EG	
STRUCTURED PROGRAMMING	IQ 250	Develop a structured methodology for problem solving, programming pseudocode, covering quality guidelines in the design and documentation of the generated program

STRUCTURED PROGRAMMING LAB	**IQ 251**	Use structured programming effectively and efficiently, using Visual Basic for Applications (using Excel), as a tool for engineering calculations
FOOD MICROBIOLOGY II	**IA 324**	Identify the role of microorganisms in food spoilage, sanitary quality and public health. Also, manipulating extrinsic factors and intrinsic food for proper conservation
FOOD MICROBIOLOGY LAB	**IA327**	Learni to prepare culture media and apply various techniques to evaluate the microbial content of food samples
PHENOMENA IN FOOD TRANSPORTATION	**IA 329**	Understand and apply the methodology for the design and analysis of phenomena involving the transfer of momentum, heat and mass, chemical and biological processes used to characterize, conserve or transform food
FOOD BIOCHEMISTRY II	**IA 326**	Understand the main metabolic pathways in living organisms that cause changes in foods of plant or animal origin. Identify the major components (proteins, lipids and fats) and their characteristics in specific food
FOOD BIOCHEMISTRY LAB II	**IA 328**	Learn to play some stages of the various biochemical processes occurring in living systems. Identifying the characteristics of biochemical components in food and understand how they affect food during processing
ANALYTICAL CHEMISTRY	**QC 341**	Identify the principles of analytical chemistry, discovering how they are applied in chemistry and related disciplines, as well as in the life sciences and health.
ANALYTICAL CHEMISTRY LAB	**QC 345**	Develop basic analytical techniques and quantitative analytical chemistry work. Identify the steps in a method of analysis in a systematic and responsible manner, always seeking the accuracy and precision in their work.
NUMERICAL METHODS	**MA 318**	Learn elementary numerical methods for approximation of solutions, annotation and estimation of errors in a wide range of mathematical problems: resolution of linear and non-linear equations, numerical interpolation and integration, as well as solution of differential equations. Mathematically model a situation and solve problems with mathematical techniques using those numerical methods that best fit the given characteristics. Know how to discern which of a range of numerical methods is the most appropriate when solving a given problem, depending on the characteristics that concur. Find appropriate intervals to numerically approximate zeros of nonlinear functions. Solve linear systems using direct and iterated methods

FOOD CHEMISTRY	**IA 332**	Learn the fundamental principles of the main chemical changes that occur in food, deteriorating or benefiting them, as well as aspects of the functionality of the components and their influence on the physical, chemical, nutritional and organoleptic properties of food.
FOOD CHEMISTRY LAB	**IA 333**	Acquire the necessary skills to handle chemical and biological material in experimentation and learn to interpret the observations and results obtained in the Laboratory in the Laboratory
FOOD PROCESSING I	**IA 340**	Developi the theoretical and practical elements on food preservation processes in which solutes are added and/or modified by means processes or other methods: fermentation, curing, stuffing, smoking, salting, sweeting and packaging
FOOD PROCESSING LAB	**IA 341**	Understand the basics and introduction to the methodology of food processing with reference to the prevention of biological, microbiological and chemical deterioration. Understand processing technologies and food preservation by means of fermentation, curing, stuffing smoking, salting, sweetening and packaging.
FOOD ENGINEERING I	**IA 310**	Apply the concepts and equations of momentum transfer, energy balances and transport phenomena for the design and/or selection of pipes, pumps, agitation systems and equipment for the transport of fluids food
FOOD ENGINEERING LAB I	**IA 312**	Apply methods for rheological characterization of food fluids and properly understand and manipulate instruments and equipment involved in the transport of food fluids, relating the concepts of theory calculations common in the design and selection of engines and pumping, stirring and mixing
NUTRITION	**IA 334**	Understand the importance of nutrients required for proper functioning of the human body, to identify the nutritional value of processed foods. In addition, awareness and social commitment as Food Engineers to develop new products
PROBABILITY AND STATISTICS	**AE 255**	Understand the importance of statistics in their field of study and apply the concepts of probability to calculate probabilities of events. In addition to interpret practical problems related to random variables, estimating population parameters using point estimates and confidence intervals and interpret results

FOOD PHYSICAL CHEMICAL PROPERTIES	IA 410	Understand the concept of water activity control and its influence on physical deterioration, chemical and biological food, and the use of the principles of kinetic to optimize handling, processing and storage of food. Knowing the principles involved in the chemistry of colloids, foam blowing, sols, gels and food emulsions, as well as factors affecting its stability
FOOD PHYSICAL CHEMICAL PROPERTIES LAB	IA 411	Applying the principles involved in processing, handling and storage of food which has reduced water availability, emphasizing the physicochemical properties thereof and the effect of water activity and other variables (temperature, pH) in the deterioration kinetics. Recognize food systems and their properties when in gel, foam or emulsion
QUALITY ASSURANCE I	IA 450	Know the principles and quality systems to be applied in the food industry. Understand the essence of the basic tools and techniques and other tools used to control, secure and improve the quality and the characteristics and advantages of the different administrative systems quality
FOOD ENGINEERING II	IA 412	Apply the concepts and equations of heat transfer and material balances of energy and transport phenomena for the design and/or selection of heat exchangers and processes for evaporation, concentration, sterilization, pasteurization, cooling and freezing food
FOOD ENGINEERING LAB II	IA 417	Apply the theoretical knowledge acquired in the theory of multiple unit operations and manage operations teams involved in downsizing, mechanical separation and heat transfer
FOOD ANALYSIS	IA 436	Understand the main methods used to quantify the food components suo the student will choose one that is most appropriate to make some determination in each situation, make changes without affecting the accuracy of the results, and manage data and results obtained
FOOD ANALYSIS LAB	IA 438	Apply different methods to quantify the components of food in such a way that, from the understanding of their fundamentals. Analyze and discuss the results obtained, evaluate the applied methods, recommend the most appropriate method according to the sample and the purpose of the analysis, as well as draw conclusions regarding the characteristics of the method
GENERAL STUDIES III	EG	

SOCIAL RESPONSIBILITY	RS 498	Reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way
QUALITY ASSURANCE II	IA 452	Understand the attributes of food quality, techniques for evaluation and how each quality attribute applies to individual products; as well as techniques hazard analysis and critical control points (HACCP).
QUALITY ASSURANCE LAB	IA 455	Know and apply the analysis techniques food quality attributes, and recognize and discuss the type of analysis appropriate quality according to the type of food
FOOD PROCESSING II	IA 442	Identify national and international laws regulating the food industry and the principles on which food preservation is based on the addition of additives; Also identify principles irradiation, disinfection (sanitation), water supply and waste disposal
FOOD ENGINEERING III	IA 414	Understand the technological aspects and engineering certain separation processes used in chemistry, biochemistry and food industry. Analyze particularly drying, gas absorption, humidification and distillation. To assess the effectiveness of the process or unit operation according to the objectives and procedures for the design of the equipment used in the processes analyzed
FOOD ENGINEERING LAB III	IA 418	Apply theoretical concepts studied in the Food Engineering III course and develop practical experiences to understand and analyze the engineering design process by managing teams most representative in the food industry related to thermal treatment, drying, cooling, freezing and frying of foods
DESIGN AND DEVELOPMENT OF FOOD PRODUCTS AND PROCESSES	IA 444	Understand the methodology to design food products and processes, integrating the knowledge acquired in previous courses on technology, engineering, economics and related areas. Apply the procedures to be followed for obtaining a high-quality food product that competes advantageously in the market for processed foods which you will develop a new product, demonstrating concepts learned
GENERAL STUDIES IV	EG	Plan and start the development of a research project in Food Science and Engineering, under the supervision of a professor
GRADUATION PROJECT I	IA 496	Plan and start the development of a research project in Food Science and Engineering, under the supervision of a professor

FOOD ENGINEERING IV	IA 460	Understand the technological and engineering processes certain separation and emerging technologies applied in food preservation. To assess the effectiveness of the process or unit operation according to the objectives and procedures for the design of the equipment used in the processes analyzed
DESIGN OF FOOD PROCESSING PLANTS	IA446	Develop a methodology to design food processing plants, integrating the knowledge acquired in previous courses on technology, engineering, economics and related areas
GENERAL STUDIES V (Co-curricular)	EG	
GRADUATION PROJECT II	IA 497	Conclude and defend a research project on under the supervision of a professor.
ELECTIVES		
TECHNOLOGY OF MILK PRODUCTS	IA 488	Analyze the fundamentals of the science of understanding the transformations milk and milk to produce various dairy products such as ice cream, cheese, yogurt and other dairy products. Also, apply criteria for process engineering design of dairy processing
ECONOMIC ENGINEERING	II 390	Apply various financial techniques to analyze requirements and investment projects, choosing alternatives with higher yields and consistent with the strategic planning of the company.
PROFESSIONAL SEMINAR	IA 447	Link to the student with industry to participate in professional seminar in the field of his specialty
ENVIRONMENTAL BIOTECHNOLOGY	IQ 400	Analyze aspects of biochemical kinetics and methodology suitable for reactors designed for intermittent and continuous biotechnological processes using microorganisms and enzymes.
TREATMENT OF SOLID RESIDUES	IQ 404	Calculate physical and chemical properties of solid waste to design treatment, disposal, incineration and reuse processes. Meet the applicable standards for treatment systems and municipal solid waste processing and energy recovery, re-use and recycling to handle, store and transport hazardous and non-hazardous solid waste

ELECTRONIC AND COMMUNICATIONS ENGINEERING

ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
GENERAL STUDIES I	EG	

ALGORITHMIC SOLUTIONS LAB	IS 116	Algorithmic concepts relate with their counterparts in high-level programming. This course is a complement to the course of algorithmic solutions, leading to practical reasoning skills and development of methods acquired there. The programming language is Java here.
INTRODUCTION TO ELECTRONIC ENGINEERING LAB	IE 101	Master basic concepts and techniques of Electronic Engineering, both from an analog and digital perspective. Allow the student to know the applications and potential of the study area in question as well as resources for development.
INTRODUCTION TO ELECTRONIC ENGINEERING	IE 102	Test the concepts and techniques of engineering in electronics from an analog and digital perspective, allowing the student to discover the applications and potential of the study area in question as well as resources for development.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
LINEAR ALGEBRA	MA 127	Handle the fundamental concepts of linear algebra. Also distinguish and solve different systems of linear equations.
CALCULUS I	MA 130	Apply differential calculus in problem solving and decision making, through the solution of different exercises such as: determining the domain of a given function, finding the linear approximation of a function at a given point and drawing the graph of a function, determine its asymptotes, maxima, minima, and inflection points.
DIGITAL CIRCUITS	IE 103	Master logical reasoning methods for analysis and design of digital circuits. In addition simulate, analyze, design and implement digital circuits with computer programs. Use tools to design digital circuits.
DIGITAL CIRCUITS LAB	IE 104	Design and analyze digital circuits with specialized computer programs. Complementing the theory of digital circuits with the design and evaluation of digital circuits with VHDL program. Demonstrate mastery of tools to design digital circuits.

PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
GENERAL STUDIES II	EG	
CALCULUS II	MA 132	Master basic integration techniques choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
DATA STRUCTURE I	IS 117	Design and program with object-oriented software. Apply design techniques and notation UML (Unified Modeling Language) and Java programming language. Manage the main mechanisms for creating, maintaining and search for information on static data structures.
MECHANICS	FS 220	Identify the fundamental concepts of classical mechanics, such as statics, linear and angular dynamics, work, energy, power, momentum, momentum and balance. Solve exercises related to these concepts and translate them into mathematical language to compare them with everyday situations.
MECHANICS LAB	FS 221	Explain and apply various concepts of Experimental Mechanics such as momentum or momentum and kinetic and potential energy torca energy and conservation of angular momentum or angular movement. Conduct pilot exercises to determine moves with uniform velocity by measurement, and distinguish the difference between mass and weight and identify the frictional force.
CIRCUITS I	IE 220	Analyze and design electrical circuits involving capacitors resistors, inductors, dependent and independent sources and steady state sinusoidal signals.
CIRCUITS LAB I	IE 223	Simulate, analyze and implement basic electrical circuits. Master how to interconnect the various elements of an electrical circuit (resistors, capacitors, inductors, power sources and operational amplifiers) and test using the oscilloscope and multimeter.

SECOND LANGUAGE III	ID	Pose, solve and interpret problems involving the concepts of history, vectors, velocity, acceleration, tangent, normal and binormal. Handle and interpret the concepts of gradient, divergence and rotation and their interrelationships. Pose, solve and interpret problems involving line integrals and surface. Manage and interpret the theorems of Green, Stokes and Gauss divergence. Calculate the gradient, divergence and rotational in rectangular coordinate systems, cylindrical and spherical.
VECTORIAL CALCULUS	MA 230	Solve ordinary first-order equations and differential equations of second order inhomogeneous methods parameter variation and undetermined coefficients and using power series. And solve problems of exponential growth, cooling, and mixtures orthogonal trajectories, mechanical problems of mass-spring circuits and mixtures. Get the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and integro-differential equations.
ORDINARY DIFFERENTIAL EQUATIONS	MA 227	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
ELECTROMAGNETISM	FS 320	Analyze electromagnetic phenomena. Solve exercises related to electric charge, electromagnetic field, electric potential, capacitance, resistance, Electric Circuits, magnetic induction, and electromagnetic circuits. Interpret electrical and magnetic phenomena and the combination of both, expressing them in mathematical form. Compare situations in daily life with the phenomena analyzed and solve basic problems on the topics discussed
ELECTROMAGNETISM LAB	FS 321	Experimentally check the physical phenomena of electricity and magnetism through Laboratory Practices. Prove Maxwell's laws experimentally, as well as Faraday's induction effect
CIRCUITS II	IE 222	Apply the Laplace transform in Circuit Analysis. Apply the concept of transfer function of Electric Circuits and its parts: impulse response, convolution, poles and zeros. Use the concept of frequency response of Electrical Circuits to filter signals through equations, simulation software and graphs. Perform Circuit Analysis and Cascading of Multiple Circuits using two-port network parameters. Obtain the frequency representation for periodic signals using the Fourier series and for non-periodic signals using the Fourier transform.

CIRCUITS LAB II	**IE 224**	Measure the effects suffered by signals in Electrical Circuits and their dependence on frequency: attenuation of the peak value and phase shift of a sinusoidal signal. Implement a circuit from its transfer function and interpret its behavior as a frequency filter. Obtain in an experimental way the frequency content of an electrical signal.
ELECTRONICS I	**IE 250**	Apply the principle of conduction in semiconductor materials and diode operation. Three semiconductor devices are studied: DIODE, BJT transistor in PNP and NPN arrangements, and JFET transistor in N-channel and P-channel arrangements. For each device, master the physical description of its behavior, relationship between voltage and current in terminals, different modes of operation and the use of simple models for rapid Analysis of direct current circuits and linear circuits in small signal, some of their applications, polarization techniques and point of operation for the use of the BJT transistor in amplifiers with emitter arrangements, base and common collector and for use of the JFET transistor in amplifiers with sink and common source arrays.
ELECTRONICS LAB I	**IE 251**	Use electronic devices in the design of circuits for signal amplification and in applications where these devices function as switches.
PROBABILITY AND STATISTICS	**AE 255**	Define the basic terminology used in statistics. Build a frequency table and interpret it. Represent and interpret a set of data graphically and numerically. Apply the concepts of probability to calculate probabilities of events. Interpret practical problems related to random variables, and establish their probability distributions, as well as means and variances, for both discrete and continuous cases. Distinguish the different sampling distributions. Estimate population parameters using point estimators and confidence intervals and interpret the results. Make inferences about population parameters using hypothesis tests and interpret their results.
FUNDAMENTALS OF COMMUNICATION	**IE 333**	Master and apply the basic concepts of radio communications for Analysis and design of analog communication systems for the transmission of audio signals using analog modulation techniques, anticipating the presence of noise from different sources, in the communication process. In addition to using the frequency domain to solve analog modulation problems and to understand the process of transmitting and receiving signals. You also know the general principles of radio communications.

FUNDAMENTALS OF COMMUNICATION LAB	IE 334	Design and build transmission circuits using electronic modulation techniques. Verify experimentally the relationship that the signals conserve between the time domain and the frequency domain.
ELECTRONICS II	IE 350	Develop the ability to analyze and design analog electronic circuits in power applications. Master analog circuit design techniques for amplifier circuit applications.
ELECTRONICS LAB II	IE 353	Complement the theoretical course through the development of Laboratory Practices. Design and analyze amplifier circuits using computational tools. Mastering design techniques to analyze analog circuits made in the Laboratory
MICROCONTROLLERS AND MICROPROCESSORS	IE 374	Analyze, design and implement digital systems based on microcontrollers and microprocessors. In addition to demonstrating that you use logical reasoning methods in application analysis and design. Manage the tools for the design of systems with microcontrollers and microprocessors
MICROCONTROLLERS AND MICROPROCESSORS LAB	IE 377	Complement the theoretical course through the development of Laboratory Practices. In addition to mastering computational design techniques to develop applications in circuits with microcontrollers and check their operation.
ELECTROMAGNETIC THEORY	IE 380	Describe and explain Maxwell's equations, as well as interpret them to identify their physical meaning. Describe, compute, and predict the behavior of uniform plane waves when propagating through possibly different media. Explain and predict the propagation of waves in a transmission line. Use the Smith Chart to solve transmission line problems.
GENERAL STUDIES III	EG	
NUMERICAL METHODS	MA 318	Learn elementary numerical methods for approximation of solutions, annotation and estimation of errors in a wide range of mathematical problems: resolution of linear and non-linear equations, numerical interpolation and integration, as well as solution of differential equations. Mathematically model a situation and solve problems with mathematical techniques using those numerical methods that best fit the given characteristics. Know how to discern which of a range of numerical methods is the most appropriate when solving a given problem, depending on the characteristics that concur. Find appropriate intervals to numerically approximate zeros of nonlinear functions. Solve linear systems using direct and iterated methods
ELECTRONIC INSTRUMENTATION	IE 354	Distinguish and apply the basic concepts of measurement and identify the main functions performed by measuring instruments. In addition to classifying the most commonly used sensors for the measurement of the physical variables used in the industry such as: temperature, position, movement,

		pressure, level and flow. Analyze a set of specifications to identify alternatives and select the best among them to solve specific process instrumentation problems.
ELECTRIC MACHINES	IE 356	Masteri the basic principles of operation and control of direct current machines, transformers and alternating current machines. Mastering different types of connection and construction of electrical machines. Control the different parameters associated with electrical machines.
ELECTRIC MACHINES LAB	IE 357	Apply the knowledge acquired in the Electrical Machines course. Check the operating principles of the most common electrical machines, examining their characteristics and accustomed to observing safety standards applicable to this type of equipment while some of the basic test methods apply. Master different connection types of electrical machines. Control the various parameters associated with electrical machines.
INFORMATION THEORY	IE 361	Master the fundamental concepts of information theory and its applications in digital communications. Besides knowing the techniques of digital signal analysis.
DIGITAL COMMUNICATIONS	IE 392	Master the theory of digital communications for development of applications in signal transmissions. In addition to analyzing and modeling channels transmitting digital signals at high speed.
DIGITAL COMMUNICATIONS LAB	IE 393	Test experimental modulators and demodulators circuits digital formats. Analyze and synthesize a digital communications system in different formats.
GENERAL STUDIES IV	EG	
ANALOGICAL SIGNAL PROCESSING	IE 400	Master the theory of the active filter design in different configurations. In addition solve and simulate circuits with passive elements RC active filters.
ANALOGICAL SIGNAL PROCESSING LAB	IE 401	Master the different approaches (Butterworth, Chebyshev and Elliptic) in the design and implementation of passive and active analog filters.
CONTROL THEORY	IE 440	Develop the ability to model, analyze and design analog control systems.
CONTROL THEORY LAB	IE 441	Model, analyze and design analog control systems. Complementing the theory by developing experiments make evident the classical concepts in development control.
TELECOMMUNICATIONS	IE 445	Describe and explain the architecture and operation of the main communication systems, and the main characteristics and behavior of the transmitting means and multiple access techniques. Identify the application of these systems in solving problems of transmission.

TELECOMMUNICATIONS LAB	IE 446	Verify the behavior of the telephone system and obtain its electrical parameters. Design and building control systems using different means, techniques and communication technologies.
INDUSTRIAL ELECTRONICS	IE 450	Apply knowledge of power electronics in solving industrial problems involving instrumentation and process control. Analyze and measure electronic circuits power converters under real operating conditions. Relate and apply knowledge of power electronics circuit theory, control, and instrumentation.
INDUSTRIAL ELECTRONICS LAB	IE 451	Apply knowledge of power electronics to solve industrial problems involving instrumentation and process control. Implement circuits power electronic converters under real operating conditions. Relate and apply knowledge of power electronics circuit theory, control, and instrumentation.
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
DIGITAL SIGNAL PROCESSING	IE 422	Master the processing techniques in the time domain to analyze and design digital systems, as well as handle the concepts of fast Fourier transform in time and frequency. Make and design IIR and FIR digital filters by placing poles and zeros in the complex plane, as well as determining the impulse response of FIR filters with linear phase, and bilinear transformation.
DIGITAL SIGNAL PROCESSING LAB	IE 431	Complement the theory by experimentally testing digital circuits for signal processing, as well as demonstrating the analysis of signals in the time and frequency domain. Implement digital processing systems through the use of different topologies. In addition to obtaining the spectral harmonic content of discrete signals through the Fourier Series for discrete periodic signals in time.
COMPUTER NETWORKS I	IE 432	Master, design and operate a network of computers on the Internet. In addition understand the different topologies, arrangements and configurations of a network.
COMPUTER NETWORKS LAB I	IE 433	Analyze the protocols of local area networks, wired and wireless. Design networks with typical star and ring topologies.
TRANSMISSION LINES AND ANTENNAS	463	Describe and explain the principles of transmission by electromagnetic waves, such as transmission lines and waveguides. Relate the characteristic parameters of the radiation of electromagnetic waves with the transmission of information via antennas. Analyze and design various types of antennas such as dipole, loop, spiral, opening, reflection, microstrip; based on radiation parameters and operating principles. Combine some of the types of antennas for designing antenna arrays.

CELL PHONES	IE 464	Describe, explain and outline the general architecture, as well as features and subsystems of the most important personal wireless communications systems for voice and multimedia data. Identify and contrast the main features of personal communications systems of 2.5G and 3G wireless. Describe and explain the protocols and communication frames of personal wireless communications systems.
CELL PHONES LAB	IE 465	Verify the process of transmitting digital information wirelessly. Design, simulate and implement a wireless communications system for control.
GRADUATION PROJECT I	IE 498	Analyze and evaluate the practical problems encountered in the design of an electronic system used to control and/or communications systems in general. Recognize their own creative and self-learning ability and apply the knowledge acquired throughout their degree.
GENERAL STUDIES V (CO-CURRICULAR)		
COMPUTER NETWORKS II	IE 434	Analyze methods of congestion control, traffic engineering in MPLS networks, quality of service, and Internet security.
OPTIC COMMUNICATIONS	IE 456	Master and interpret the fundamental theory of optical communications and its application in the analysis and evaluation of the performance of a signal transmission system for optical channel.
OPTIC COMMUNICATIONS LAB	IE 457	Test the different circuits for modulating and demodulating signals transmitted through the light. Analyze the performance of an optical communication system.
GRADUATION PROJECT II	IE 499	Prepare the physical implementation or, where appropriate, have concluded the research work, writing a report and presentation before the jury designated by the department.
ELECTIVES		
DIGITAL CONTROL	IE 442	Distinguish and apply the fundamental concepts for the design of linear digital PID controllers in phase compensation and the state space. Justify the use of Z transform as a programming strategy and methodologically design digital control systems that match a set specifications and restrictions.
DIGITAL CONTROL LAB	IE 443	Design and test the behavior of digital controllers. Apply and relate the digital control theory with other fields of expertise.

WIRELESS COMMUNICATIONS	IE 454	Compare protocols for wireless communications networks WPAN, WLAN, WMAN, WWAN and and master the IEEE 802.15, IEEE 802.11, IEEE 802.16e, IEEE 802.20 and Bluetooth standards.
WIRELESS COMMUNICATIONS LAB	IE 455	Verify the concepts comprising the course of wireless communications. Analyze and simulate protocols PAN, LAN, MAN, WAN and wireless networks.
SATELLITE COMMUNICATION	IE 466	Describe and explain the architecture and operation of satellite communication systems, design the link budget of both type GEO, MEO and LEO satellite system. Describe and explain the operation and applications of multimedia data transmission and digital satellite systems, for fixed and mobile communications. Describe and explain the integration of terrestrial networks with satellite networks for wireless communications systems 3G and 4G.
SATELLITE COMMUNICATION LAB	IE 467	Use the tools most important design software to simulate and satellite communications systems.
INFORMATION TECHNOLOGIES I	IE 489	Design and manage networks and telecommunication systems. Design and efficient hierarchical topologies that have a good performance in the industrial and practical level. Apply the theory on practical aspects of policy implementation network management as well as install and physical media devices that form the network.
INFORMATION TECHNOLOGIES LAB I	IE 493	Complement the knowledge acquired in the theoretical course of Information Technology I by experimental verification of the behavior of different network devices. Design and implement networks with different topologies and hierarchies.
INFORMATION TECHNOLOGIES II	IE 492	Design and manage telecommunication systems, structures and focused on intermediate and advanced network configurations. Install and configure network devices from the physical layer and verify performance and possible errors.
INFORMATION TECHNOLOGIES LAB II	IE 494	Complement the knowledge acquired in the theoretical course of Information Technologies II by experimental verification of the behavior of different network devices. Program advanced networks with complex topologies using advanced network protocols.

MECHATRONIC ENGINEERING

GENERAL STUDIES I	EG	

ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Algorithmic concepts relate with their counterparts in high-level programming. This course is a complement to the course of algorithmic solutions, leading to practical reasoning skills and development of methods acquired there. The programming language is Java here.
INTRODUCTION TO MECHATRONIC ENGINEERING	ME 110	Understand how to integrate and interact disciplinary areas that make up the mechatronics and discriminate the role that each plays in the overall operation of both domestic and industrial mechatronic systems. Also, know the history and development of mechatronics engineering, to be able to determine the current role in modern industry and daily life.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
LINEAR ALGEBRA	MA 127	Handle the fundamental concepts of linear algebra. Also distinguish and solve different systems of linear equations.
CALCULUS I	MA 130	Apply differential calculus in problem solving and decision making, through the solution of different exercises such as: determining the domain of a given function, finding the linear approximation of a function at a given point and drawing the graph of a function, determine its asymptotes, maxima, minima, and inflection points
DATA STRUCTURES I	IS 117	Design and program with object-oriented software. Apply design techniques and notation UML (Unified Modeling Language) and Java programming language. Understand and manage the main mechanisms for creating, maintaining and search for information on static data structures.
TECHNICAL COMPUTER DRAWING LAB	ME 153	Master concepts of technical drawing, display of objects in the plane and space, rendering multiple views, representation of mechanical elements, recognize and interpret diagrams electrical, electronic, and plumbing, and the representation of welded joints, bolted and riveted.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their

		professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
GENERAL STUDIES II	EG	
CALCULUS II	MA 132	Master basic integration techniques to choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
MECHANICS FOR ENGINEERS I	ME 215	Determine the equilibrium conditions for particles and rigid bodies undergoing dimensional coplanar forces. Apply the principles governing the equilibrium of particles and rigid bodies subjected to coplanar and three-dimensional forces to the solution of problems related to mechanical engineering. Apply the principles of dry friction in solving balance problems. Apply the principles for centroid location of rigid bodies. Apply the principles for calculating moment of inertia of areas.
ELECTRIC CIRCUITS	ME 200	Apply analysis techniques circuitry. Design applications based on electrical circuits. Possessing foundation for later learning electronics.
ELECTRIC CIRCUITS LAB	ME 201	Simulate, analyze and implement basic electrical circuits. Master how to interconnect the various elements of an electrical circuit (resistors, capacitors, inductors, power sources and operational amplifiers) and test using the oscilloscope and multimeter.
MEASUREMENT AND INSTRUMENTATION LAB	ME 253	Apply and synthesize the available modern technology for measuring electrical variables. Use and master measuring instruments for certain tasks.
SECOND LANGUAGE III	ID	
VECTORIAL CALCULUS	MA 230	Pose, solve and interpret problems involving the concepts of history, vectors, velocity, acceleration, tangent, normal and binormal. Handle and interpret the concepts of gradient, divergence and rotation and their interrelationships. Pose, solve and interpret problems involving line integrals and surface. Manage and interpret the theorems of Green, Stokes and Gauss divergence. Calculate the gradient, divergence and rotational in rectangular coordinate systems, cylindrical and spherical.

ORDINARY DIFFERENTIAL EQUATIONS	MA 227	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
ELECTROMAGNETISM	FS 320	Analyze electromagnetic phenomena. Solve exercises related to electric charge, electromagnetic field, electric potential, capacitance, resistance, Electric Circuits, magnetic induction, and electromagnetic circuits. Interpret electrical and magnetic phenomena and the combination of both, expressing them in mathematical form. Compare situations in daily life with the phenomena analyzed and solve basic problems on the topics discussed
ELECTROMAGNETISM LAB	FS 321	Experimentally check the physical phenomena of electricity and magnetism through Laboratory Practices. Prove Maxwell's laws experimentally, as well as Faraday's induction effect.
MECHANICS FOR ENGINEERS II	ME 218	Establish the basis to define the parameters of motion for machine elements. Master and interpret the equations of motion.
MATERIAL PROPERTIES	ME 220	Identify and explain the behavior properties during processing and in various engineering applications of solid materials. Argue different forms of classification of solid materials. Argue the importance of corrosion engineering projects.
MATERIAL PROPERTIES LAB	ME 221	Operate laboratory equipment, obtaining various data for interpretation and acquisition of the properties of a wide variety of materials.
INTEGRATED ELECTRONICS	ME 210	Develop the ability to analyze and design analog electronic circuits.
INTEGRATED ELECTRONICS LAB	ME 211	Design, build and simulate analog electronics laboratory.

PROBABILITY AND STATISTICS	**AE 255**	Define the basic terminology used in the statistics. Construct a table of frequencies and interpret. Represent and interpret a set of data graphically and numerically way. Apply the concepts of probability to calculate probabilities of events. Interpret practical problems associated with random variables, and set their probability distributions, as well as means and variances for both discrete and continuous cases. Distinguish the different sampling distributions. Estimate population parameters using point estimates and confidence intervals and interpret the results. Make inferences about population parameters by testing hypotheses and interpret their results.
AUTOMATON THEORY	**IS 332**	Master the theoretical foundations of computing. Address computational problems with mathematical rigor. properly handle the concepts of finite automaton, regular expression, Turing machine.
MECHANICS FOR ENGINEERS III	**ME 318**	Apply the fundamental principles of the movement and experience in the application of the principles to a wide variety of situations in engineering.
COMBINATIONAL AND SEQUENTIAL LOGIC	**ME 320**	Use logical reasoning methods in the analysis and design of digital circuits. Develop some applications and typical circuit solutions.
COMBINATIONAL AND SEQUENTIAL LOGIC LAB	**ME 321**	Simulate, analyze, design and implement digital circuits with the help of specialized software. Perform laboratory experimental verification of digital circuits designed.
SOLIDS MECHANICS	**ME 340**	Establish the basis for determining the response of the deformable solids; by calculating the forces and resulting deformations, to the action of different load conditions. Master the elements of machines working as beams, shafts and columns.
SOLIDS MECHANICS LAB	**ME 341**	Develop skills in solid mechanics, performing different solids practical activities under different load conditions observed in each resilience, stiffness and stability of the materials.
THERMOFLUIDS	**ME 366**	Estimate the properties commonly used in thermal fluids and review the principles of conservation of energy and the second law of thermodynamics. Analyze the variation of pressure in a static fluid, applying the equations of hydrodynamics comprehensively analyze flows through pipes, check flow around a body immersed and analyzing forces drag and lift. Evaluate dimensional heat transfer and transient conduction; convection forced and natural and radiation.

NUMERICAL METHODS	**MA 318**	Learn elementary numerical methods for approximation of solutions, annotation and estimation of errors in a wide range of mathematical problems: resolution of linear and non-linear equations, numerical interpolation and integration, as well as solution of differential equations. Mathematically model a situation and solve problems with mathematical techniques using those numerical methods that best fit the given characteristics. Know how to discern which of a range of numerical methods is the most appropriate when solving a given problem, depending on the characteristics that concur. Find appropriate intervals to numerically approximate zeros of nonlinear functions. Solve linear systems using direct and iterated methods
ELECTRONIC INSTRUMENTATION	**ME 354**	Distinguish and apply the basic concepts of measurement and distinguish enters the main functions performed by measuring instruments. Classify the most commonly used sensors for measuring physical variables used in the industry such as: temperature, position, motion, pressure, level and flow. Analyze a set of specifications for identifying alternatives and select the best among them to solve specific problems of process instrumentation. methodologically design measuring instruments matching a set specifications and restrictions. Projecting the methodology to other transducers for measuring variables not addressed in the course. Apply electronic instrumentation and linking fields related to their specialty.
ELECTRONIC INSTRUMENTATION LAB	**ME 355**	Apply the concepts of Electronic Instrumentation to design measuring instruments, checking experimentally the behavior of the most common transducers. Design measuring instruments matching a set specifications and restrictions. Projecting the methodology to other transducers for measuring variables not addressed in the course. Apply electronic instrumentation and linking fields related to their specialty.
MICROCONTROLLERS	**ME 374**	Analyze, design and implement digital systems based on microcontrollers and microprocessors. Demonstrate the uses of logical reasoning methods in the analysis and design applications requiring microcontrollers or microprocessors. properly handle tools for designing systems with microcontrollers and microprocessors. operate efficiently peripherals including a family of commercial microcontrollers.
MICROCONTROLLERS LAB	**ME 375**	Design and implement digital systems based on microcontrollers and microprocessors with specific applications. Demonstrate mastery programming microcontrollers or microprocessors with software tools.

MECHANISMS	**ME 380**	Know, master and analyze the main mechanisms used in machines, as well as the different machinings common engineering practice.
MECHANISMS LAB	**ME 381**	Identify the basic elements that make up a mechanism and check the function of each within it. Identify the types of kinematic pairs and determine the degree of mobility of these. Analyzing the movement of the mechanism from the point of view kinematic. Identify and analyze the different types and functions of existing cams. List the different types of gears and parts that identify them. Identify the different types of tooth profile for gears and gear types. Identify typical applications in robotic mechanisms.
MANUFACTURING	**ME 390**	Define and classify manufacturing processes commonly used in the metalworking and automotive industries. Discriminating the implementation of each process based on selection criteria. Describing the scientific basis for each of the processes. Describe all components of a manufacturing process. Select the processes for a particular application.
MANUFACTURING LAB	**ME 391**	Develop skills in machine tools for basic manufacturing processes with and without chip startup.
GRAPHING	**IS 345**	Apply graphing techniques in two and three dimensions using a high-level language. Design, develop interactive graphing systems and apply techniques for lighting. Master the techniques of animation and virtual reality.
ELECTRICAL MACHINES	**ME 356**	Master the basic principles of operation and control of machines DC machines, transformers and AC. Master different types of connection and construction of electrical machines. Control the various parameters associated with electrical machines. Integrate design concepts and problems electromechanical solution under a mechatronic approach.
ELECTRICAL MACHINES LAB	**ME 357**	Develop skills in Electrical Machines. Distinguish operating principles of the most common electrical machines, examining their characteristics and evaluate the safety standards applicable to this type of equipment while some of the basic test methods apply. Connection contrast different types of electrical machines. Control the various parameters associated with electrical machines.
COMPUTER INTEGRATED MANUFACTURING	**ME 430**	Master manufacturing processes and design using specialized computer programs. Analyze the different technologies available to properly implement the manufacturing processes.

COMPUTER INTEGRATED MANUFACTURING LAB	ME 431	Master and program the CNC machinery laboratory using appropriate codes to these machines using programming and CAD CAM software.
CONTROL THEORY	ME 440	Develop the ability to model, analyze and design analog control systems.
CONTROL THEORY LAB	ME 441	Complement the theory by developing experiments make evident the classical concepts in development control. Model, analyze and design analog control systems.
MECHATRONIC DESIGN	ME 490	In the mechatronic design course, students apply their skills and abilities in mathematics, science and engineering to design and conduct experiments, as well as the ability to analyze and interpret data to obtain reliable and robust designs that meet specific tasks.
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
GENERAL STUDIES III	EG	
ROBOTICS	IS 483	Develop the ability to structure, organize and program a robot in general. Mastering the concepts of robotics to design and implement routines robots with specific applications. Relate the general theoretical concepts to develop applications specific robots.
POWER ELECTRONICS	ME 450	Apply knowledge of power electronics in solving industrial problems involving instrumentation and process control. Implement circuits power electronic converters under real operating conditions. Relate and apply knowledge of power electronics circuit theory, control, and instrumentation.
POWER ELECTRONICS LAB	ME 451	Complement the theoretical course with the development of practices, applying knowledge of power electronics in solving industrial problems involving instrumentation and process control. Design and implement circuits power electronic converters. Relate and apply knowledge of power electronics circuit theory, control, and instrumentation.
COMMUNICATION NETWORKS	ME 472	Investigate the fundamental concepts of digital data communication, and process design and overall operation of a communications network.
GRADUATION PROJECT I	ME 498	Analyze and evaluate the practical problems encountered in the design of an electronic system used to control and/or communications systems in general. Recognize their own creative and self-learning ability and apply the knowledge acquired throughout their degree.

GENERAL STUDIES IV	EG	
GENERAL STUDIES V (CO-CURRICULAR)		
PLC'S AND OLEO-PNEUMATIC SYSTEMS	ME 479	Develop the ability to automate mechatronic systems using programmable logic controllers (PLC's).
PLC'S AND OLEO-PNEUMATIC SYSTEMS LAB	ME 483	Define and classify the elements of hydraulic pneumatic controls for applications in the metalworking and automotive industries. Know the application of each circuit and its selection criteria Describe the scientific basis of the hydraulic and pneumatic operation. Describe all components of a circuit pneumohydraulic. Describe all components of PLCs.
GRADUATION PROJECT II	ME 499	Develop physical implementation or, where applicable, to conclude the investigation of theoretical work as well as the written report and the presentation of that work before the jury appointed by the department.
MECHATRONIC ELECTIVES		
VIBRATIONS	IM 308	Master the fundamental principles and phenomena of mechanical vibrations and their applications to design and analyze the movement of mechanical systems.
FINITE ELEMENTS	IM 373	Master the basic theoretical foundations for the implementation of the Finite Element Method to real situations. Analyzing the stress and strain of the typical engineering structures with finite element method.
AUTOMOTIVE NETWORKD	ME 474	Apply the fundamentals of the most important protocols for automotive electronic applications networks, called X-by-Wire: TTP and FlexRay. Mastering the most important comparative characteristics of protocols TTP, FlexRay, MOST, CAN, and LIN.
INDUSTRIAL ROBOTICS	ME 460	Describe the basics of robotics. Explore key applications and the importance of robotics in industry. Ability to develop applications programming robots towards the implementation of robotics.
INTELLIGENT SYSTEMS I	IE 328	Master and apply the techniques based on Fuzzy Logic foundations for the design of control systems and computerized decision-making.
DIGITALS COMMUNICATIONS	IE 392	Master the theory of digital communications for application in the analysis and evaluation of the performance of a signal transmission system.
VOICE RECOGNITION	IS 412	Master different voice technologies, components, approaches and applications. Develop the skills to identify different approaches to recognition and speech synthesis. Check human factors in designing voice interfaces and utility of these. Simulate projects focused system design simple so that the student knows the potential and limitations of automatic

		speech recognition. Correlating the various elements of a voice-based technologies to design a simple system using different elements and design techniques interfaces voice system.
DIGITAL CONTROL	IE 442	Distinguish and apply the fundamental concepts for the design of linear digital PID controllers in phase compensation and the state space. Justify the use of Z transform as a programming strategy and methodologically design digital control systems that match a set specifications and restrictions.

SYSTEMS AND INFORMATION TECHNOLOGIES ENGINEERING

BASIC MATH	MA 111	Solve problems by using basic math concepts and techniques and efficiently operate the set algebra in solving problems of their professional practice. Algebra concepts used to construct graphs of functions related to current problems.
INTRODUCTION TO INFORMATION TECHNOLOGIES	IS 102	Master the concepts and definitions of information technologies, understanding its operation and the environment in which they are used. The student must associate general theoretical concepts applied to current information technologies.
ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	

CALCULUS I	MA 130	Apply differential calculus in problem solving and decision making, through the solution of different exercises such as: determining the domain of a given function, finding the linear approximation of a function at a given point and drawing the graph of a function, determine its asymptotes, maxima, minima, and inflection points.
LINEAR ALGEBRA	MA 127	Handle the fundamental concepts of linear algebra. Also distinguish and solve different systems of linear equations.
INTRODUCTION TO MATHEMATICAL THINKING	MO 110	Use the methods of logical reasoning in the analysis and solution of problems. Approach problems of mathematics as a geometric system and efficiently operate the algebra of propositions and the algebra of sets in the solution of mathematical problems typical of their professional practice. Adequately handle the concepts of group, ring and field, master the conceptual and operational management of relationships and functions and at the same time address mathematical problems considering the axiom of the supreme in real numbers.
DATA STRUCTURES I	IS 117	Design and program with object-oriented paradigm. Apply design techniques and notation UML (Unified Modeling Language) and Java programming language. Understand and manage the main mechanisms for creating, maintaining and search for information on static data structures.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
CALCULUS II	MA 132	Master basic integration techniques to choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
DISCRETE MATH	MA 284	Prepare students to know the main elements on which the theory of computation is based. Understand the usefulness of Mathematics in the Analysis and design of algorithms. Provide discrete mathematical concepts and methods for the study of complexity of algorithms. Apply the concepts of

		finite mathematics to everyday situations in science. Introduce some basic methods and concepts of Discrete Mathematics. Describe some of its applications to Computer Science
DATA STRUCTURES II	**IS 211**	Study and manage the main data structures and mechanisms to create and maintain complex data structures using a programming language object oriented.
HARDWARE FUNDAMENTALS	**IS 218**	Analyze and implement modern techniques of design and construction of digital systems, designing the major components of a processor, a logical arithmetic unit, control unit, memory and interfaces input / output. Apply simulation methods for dataflow processor design and information processing systems using programming languages low level computers various platforms.
SECOND LANGUAGE III	**ID**	
GENERAL STUDIES I	**EG**	
PROBATILITY AND STATISTICS	**AE 255**	Understand the importance of statistics in their field of study. Define the basic terminology used in the statistics. Construct a table of frequencies and interpret. Represent and interpret a set of data graphically and numerically way. Apply the concepts of probability to calculate probabilities of events. Interpret practical problems associated with random variables, and set their probability distributions, as well as means and variances for both discrete and continuous cases. Distinguish the different sampling distributions for both large and small samples samples. Estimate population parameters using point estimates and confidence intervals and interpret the results. Make inferences about population parameters by testing hypotheses and interpret their results.
ALGORITHM WORKSHOP	**IS 205**	Generate the solution to various problems by simple and elegant algorithms. Develop complex algorithms applied to real problems.
STORAGE MEDIA	**IS 215**	Manipulate files with different tools and devices also must be able to analyze the methods of storage and retrieval of information that are appropriate to store, modify, view and order.
HARDWARE ARCHITECTURE	**IS 223**	Use recent analysis techniques and construction of hardware and software on modern computers, designing the major components of a processor, a logical arithmetic unit, control unit, memory and interfaces input/output. Apply simulation methods for dataflow processor design and information processing systems high speed; architectures and learn computer programming languages RISC, CISC, MIPS, SIMD and MIMD.

WEB APPLICATIONS	**IS 302**	Design the structure of systems operating on the Web, analyze and master the main concepts to implement applications in it. Develop the methodology to use programming languages, as well as specific tools for programming on the Web.
SOFTWARE ENGINEERING	**IS 323**	Use appropriate methods to build quality software that works in real situations, following a formal development process. Develop methodology for generating software for different applications.
INTRODUCTION TO MANAGEMENT	**BA 100**	Analyze the theory of the administrative process, define its strengths and weaknesses and study some theoretical alternatives that can solve such deficiencies.
SOFTWARE ARCHITECTURE	**IS 303**	Design the structure and organization of a software system in general. Apply theoretical concepts of object-oriented design to implement a computer system that solves a specific problem.
OPERATION SYSTEMS	**IS 319**	Describe the structure and organization of operating systems in general, master concepts needed to design them and implement them. Master the general theoretical concepts applied to existing operating systems on the market.
AUTOMATON THEORY	**IS 332**	Master the basic knowledge of the theoretical foundations of computing. Address computational problems with mathematical rigor. Use the concepts of finite automaton, regular expression, Turing machine.
DATABASES	**IS 341**	Manage Database Management Systems (DBMS) in information management. Implement internal and external functions of a DBMS and properties of its execution model. Being able to use a DBMS for building information systems.
GRAPHS	**IS 345**	Apply graphing techniques in two and three dimensions using a high-level language. Design, develop interactive graphing systems and apply techniques for lighting. Master the techniques of animation and virtual reality.
GENERAL STUDIES II	**EG**	
DATABASE MANAGERS	**IS 304**	Apply the basics of advanced topics in drivers database systems. The course covers data modeling from the semantic point of view and object-oriented. It also covers fundamental aspects of distributed databases, object database, and interoperability issues in databases on the WWW. Other new technologies in databases will be briefly introduced.

SELECT TOPICS	IS 316	Generate an overview of the field of computing that allows you to make a more informed choice in the thesis topic. Develop a scientific article in the form of Congress memoir. Discuss various topics related to computing through expert talks. Write a document on any of the issues related to computing. Participate in specialized seminars that allow the student an overview of what is done nationally and globally in the field of computing.
NETWORKS AND TELECOMMUNICATIONS	IS 326	Master the basics and advanced networking, to design, administer and manage networks and telecommunication systems. Apply Information Technology to link them to fields related to their specialty.
NETWORKS AND TELECOMMUNICATIONS LAB I	IS 327	Apply Information Technology and link related to their specialty for the design, administration and management of networks and telecommunication systems fields. Apply the knowledge acquired in the theoretical course I Networks and Telecommunications by experimental verification of the behavior of different network devices.
BUSINESS FINANCIAL ENVIRONMENT	FC 440	Develop the ability to interpret in a way appropriate information emanating from accounting and quantitative use it as a basis for decisions
GENERAL STUDIES III	EG	
LOGIC MODELING	IS 314	Master the basics of logic and applications. Apply the techniques of logic in solving problems. Dominating the end of the course the models to pose and solve a problem using logic.
INFORMATION RECOVERY	IS 346	Identify the main problems associated with the use of large collections of data, particularly semi-structured and unstructured: modeling, storage, retrieval, and display question. Master and experience the use of tools designed to access massive information and management information via the web.
SOFTWARE PROJECT MANAGEMENT	IS 409	Master and develop the necessary skills to use methods for administering a greenfield project, implementation or software purchase.
DISTRIBUTED SYSTEMS	IS 417	Build and manage distributed systems that will underpin the development of a general culture / One undergraduate level with respect to the construction of the large-scale applications.
GENERAL STUDIES IV	EG	

GRADUATION PROJECT I	IS 498	Master the theoretical and practical knowledge of various research methodologies and project management. Analyze the steps of managing a project to apply him to develop his final work in Systems Engineering and Information Technology. Generate an essay as a conceptual framework for his thesis project to finalize the design of the project specified in a schedule of progress for the project.
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
INFORMATION SECURITY	IS 305	Analyze the problem of security and present their implications in the management of computer systems and information. Learn the basics of computer security techniques and to identify, evaluate and use existing technology.
HUMAN-COMPUTER INTERACTION	IS 438	Master and design applications for interaction between users and computer systems. Identify different paradigms of human-computer interaction, and applying design techniques and evaluation of user interfaces.
KNOWLEDGE MANAGEMENT	BA 430	Assess the strategic importance of knowledge in organizations, and develop skills to promote their creation, capture, encoding, storage and use.
GENERAL STUDIES V (CO-CURRICULAR)		
GRADUATION PROJECT II	IS 499	Develop the proposed project as final work, which uses the theoretical knowledge of various research methodologies. Provide a solution to the problem proposed as ante-project and use various computational techniques to obtain it. Analyze and evaluate the practical problems encountered in the design of a computer system. Recognize their own creative ability and self-learning and research. Assess the quality and quantity of knowledge acquired during his degree
ELECTIVES		
ADVANCED LOGIC	IS 306	Build a solid background in formal foundations of first-order logic and automated theorem proving.

NETWORK AND TELECOMMUNICATIONS LAB II	**IS 328**	Design, administer and manage networks and telecommunication systems. Configure computer equipment, network devices and designing hierarchical topologies. Policies apply theory to implement network management and install devices and physical media that form the network. Complement the knowledge of the theoretical course of Information Technologies II by experimental verification of the behavior of different network devices. Apply the concepts to increase productivity and lower operating costs on a network. Apply Information Technology and link fields related to their specialty.
ARTIFICIAL INTELLIGENCE	**IS 343**	Locate the different Artificial Intelligence paradigms and the justification for each of them to develop programs. Use learning techniques and using a logic programming language: PROLOG.
ADVANCED NETWORKS	**IS 401**	Configure computer equipment, network devices and hierarchical design and efficient topologies that have a good performance in the industrial and practical level. Apply the theory on practical aspects of policy implementation network management and installation of devices and physical media that form the network and telecommunications systems that are required to increase productivity and lower operating costs. Apply Information Technology and link fields related to their specialty. Build advanced networking concepts such as design, administration and management of telecommunications networks and systems.
VOICE RECOGNITION	**IS 412**	Master different voice technologies, components, approaches and applications. Identify different approaches to recognition and speech synthesis. Check human factors in designing voice interfaces and utility of these. Simulate projects focused system design simple so that the student knows the potential and limitations of automatic speech recognition. Correlating the various elements of a voice-based technologies to design a simple system using different elements and design techniques interfaces voice system.
PARALLEL PROCESSING	**IS 415**	Identify and master the basics of parallel processing for applications in complex architectures. Interpret techniques to develop algorithms PRAM parallel architectures.

DISTRIBUTED DATABASES	**IS 439**	Distinguish and identify the characteristics of the multimedia data characteristics. Interpret the issues to consider when multimedia data is managed. Apply and master the main functions of multimedia systems, their differences and their uses.
COMPUTER VISION	**IS 444**	Apply the methods and algorithms most common processing, recognition and interpretation of images in the search process, access and manipulation of information media based on theoretical and practical foundations that allow to model, implement, choose and make optimum systems visual perception artificial .
MULTIMEDIA DATABASES	**IS 448**	Identify and master the characteristics of the multimedia data to develop solutions to problems characteristics when multimedia data is managed. Interpret the main functions of multimedia systems for different applications in databases.
NEURAL NETWORKS	**IS 466**	Master and implement the most popular models of artificial neural networks. It is also expected that at the end of the course the student will determine which situations should solve a problem using connectionist models. Build knowledge for managing models Artificial Neural Networks or connectionist models.
ROBOTICS	**IS 483**	Develop the ability to structure, organize and program a robot in general. Mastering the concepts of robotics to design and implement routines robots with specific applications. Relate the general theoretical concepts to develop applications specific robots.
BUSINESS DEVELOPMENT	**BA 400**	Analyze the main features of micro, small and medium enterprises (SMEs); and the attitudes and skills of entrepreneurs. Know the steps and requirements to establish a new business.
PROJECT MANAGEMENT	**BA 460**	Manage projects effectively and appropriately through a comprehensive and consistent methodology, valid for any type of projects, including organizational, technical and human aspects.
DIGITAL LIBRARIES	**BC 450**	Recognize the multidisciplinary area of digital libraries as the study of virtual spaces for access, use, generation and dissemination of knowledge, and generate innovative projects within it.
ECONOMIC ENGINEERING	**II 390**	Apply various financial techniques to analyze requirements and investment projects, choosing alternatives with higher yields and consistent with the strategic planning of the company.

PRODUCTION PLANNING AND CONTROL	II 403	Use appropriate techniques and models to plan and control operations of an organization to medium and short term; with special emphasis on inventory management.
STATISTICAL PROCESS CONTROL	II 420	Apply statistical tools to determine the ability of the processes, identify the presence of special causes of variation in them and determine the fate of lots of products from information provided by a sample.
MARKETING FUNDAMENTALS	MK 111	Analyze marketing elements in detail to develop marketing strategies, which include the target market analysis and marketing mix.

INDUSTRIAL ENGINEERING

BASIC MATH	MA 111	Master concepts and mathematical techniques, operate the set algebra, using the concepts of elementary algebra, algebraic expressions manipulate, build function graphs, geometric figures distinguish, operate trigonometric identities and control systems of equations.
SECOND LANGUAGE I	ID	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
INTRODUCTION TO INDUSTRIAL ENGINEERING	II 116	Use project management tools to formulate a plan for professional development that will run to as you progress through the curriculum.
COMPUTER DRAWING LAB	IM 153	Master concepts of technical drawing, display of objects in the plane and space, rendering multiple views, representation of mechanical elements, recognize and interpret diagrams electrical, electronic, and plumbing, and the representation of welded joints, bolted and riveted.
GENERAL STUDIES I	EG	
CALCULUS I	MA 130	Apply differential calculus in problem solving and decision making, through the solution of different exercises such as: determining the domain of a given function, finding the linear approximation of a function at a given point and drawing the graph of a function, determine its asymptotes, maxima, minima, and inflection points.
SECOND LANGUAGE II	ID	

PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
LINEAR ALGEBRA	MA 127	properly handle the fundamental concepts of linear algebra. Also distinguish and solve different systems of linear equations.
METROLOGY LAB	IM 226	Apply the available instrumentation for measuring dimensions of different objects, to ensure the accuracy of data collected in laboratories and production lines.
GENERAL STUDIES II	EG	
CALCULUS II	MA 132	Master basic integration techniques choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
SECOND LANGUAGE III	ID	
GENERAL STUDIES III		
MECHANICS	FS 220	Identify and distinguish intuitively and analytically the phenomena of classical mechanics and place them according to the vision acquired in the course, equally, interpret the processes studied and translate them into the language of mathematics to quantify processes. Compare everyday situations to abstract the phenomena studied in this course and solve basic problems on the content of the same.
MECHANICS LAB	FS 221	Develop experiments that allow the student to interpret the physical phenomena of classical mechanics.
ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java
INDUSTRIAL ENGINEERING SEMINAR	II 201	Illustrate the qualities that an industrial engineer must possess to select actions that can develop these virtues in a professional.

VECTORIAL CALCULUS	MA 230	Pose, solve and interpret problems involving the concepts of trajectory, velocity vectors, acceleration, tangent, normal and binormal. Handle and interpret the concepts of gradient, divergence and rotation and their interrelationships. Pose, solve and interpret problems involving line integrals and surface. Manage and interpret the theorems of Green, Stokes and Gauss divergence. Calculate the gradient, divergence and rotational in rectangular coordinate systems, cylindrical and spherical.
DATA ANALYSIS	AE 252	Organize and describe univariate to get more meaningful information from it; use probability as a language and measure of uncertainty and a basis for decision making.
LINEAR PROGRAMMING	II 205	Build linear programming models to solve Industrial Engineering problems.
GENERAL STUDIES IV	EG	
ENGINEERING MATERIALS	IM 175	Select the metal and polymer materials suitable for manufacturing processes, based on their mechanical properties, their internal structure, chemical composition and through microesctructural analysis and the study of their crystallography.
ENGINEERING MATERIALS LAB	IM 176	Recognizing the mechanical properties of metallic and polymeric materials that can affect their behavior during manufacture; Differentiate these materials by its internal structure and chemical composition using laboratory equipment.
DATA STRUCTURE I	IS 117	Design and program with object-oriented softwware. Apply design techniques and notation UML (Unified Modeling Language) and Java programming language. Understand and manage the main mechanisms for creating, maintaining and search for information on static data structures.
ORDINARY DIFFERENTIAL EQUATIONS	MA 227	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations

QUALITY ENGINEERING I	II 335	Design the process of selecting samples from populations and based on the information provided by them estimate the value of an unknown parameter and test hypotheses about them.
QUALITY ENGINEERING LAB I	II 336	Use basic tools for analyzing statistical information in decision-making. Evaluate using statistical packages such as Minitab and Excel, to interpret the results.
INTEGER AND COMBINATORY PROGRAMMING	II 364	Build models of entire programming and combinatorial optimization models to represent situations of practical application in Industrial Engineering.
MANUFACTURING I	IM 302	Define and classify manufacturing processes commonly used in the metalworking and automotive industries. Discriminating the implementation of each process based on selection criteria and describing the scientific basis and all components of a manufacturing process. Select the processes for a particular application.
MANUFACTURING LAB I	IM 303	Develop skills in machines and tools for basic manufacturing processes with and without chip startup.
ELECTROMAGNETISM	FS 320	Analyze electromagnetic phenomena. Solve exercises related to electric charge, electromagnetic field, electric potential, capacitance, resistance, Electric Circuits, magnetic induction, and electromagnetic circuits. Interpret electrical and magnetic phenomena and the combination of both, expressing them in mathematical form. Compare situations in daily life with the phenomena analyzed and solve basic problems on the topics discussed.
ELECTROMAGNETISM LAB	FS 321	Experimentally check the physical phenomena of electricity and magnetism through Laboratory Practices. Prove Maxwell's laws experimentally, as well as Faraday's induction effect
NUMERICAL METHODS	MA 318	Learn elementary numerical methods for approximation of solutions, annotation and estimation of errors in a wide range of mathematical problems: resolution of linear and non-linear equations, numerical interpolation and integration, as well as solution of differential equations. Mathematically model a situation and solve problems with mathematical techniques using those numerical methods that best fit the given characteristics. Know how to discern which of a range of numerical methods is the most appropriate when solving a given problem, depending on the characteristics that concur. Find appropriate intervals to numerically approximate zeros of

		nonlinear functions. Solve linear systems using direct and iterated methods
REGRESSIONS AND TIME SERIES	**II 338**	Understand the concepts of regression models, considering the mathematical foundations of the model and apply them to real cases. Validate models through forecasting techniques. properly apply quantitative forecasting techniques, and use computational tools necessary to obtain numerical results. It is also objective of the course to show, through examples, the practical usefulness of the analysis of time series and, more importantly, guide the student so you can perform analysis on their own, proving its usefulness in practice series studies of economics and finance.
QUALITY ENGINEERING II	**II 340**	Apply procedures nonparametric statistics, sampling and reliability by using the computer to real cases of Industrial Engineering.
COMPUTER INTEGRATED MANUFACTURING	**IM 438**	Identify cases where the application of computer integrated technology offers tangible advantages in the manufacture of various products.
COMPUTER INTEGRATED MANUFACTURING LAB	**IM 439**	Program the CNC machine of the Computer Integrated Manufacturing Laboratory using the appropriate codes and available CAD-CAM software.
WORK STUDY	**II 302**	Lead time and motion study to allow work efficiently allocate and measure the performance of workers.
ECONOMIC ENGINEERING	**II 390**	Apply various financial techniques to analyze requirements and investment projects, choosing alternatives with higher yields and consistent with the strategic planning of the company.
FACILITIES DESIGN	**II 401**	Demonstrate ability to increase the efficiency of facilities, companies, goods and services, through proper management of the design stages; and the development of alternative distribution of space considering the different requirements and flows of an installation.

STATISTICAL PROCESS CONTROL	**II 420**	Apply statistical tools to determine the ability of processes, identify the presence of special causes of variation in them and determine the fate of lots of products from information provided by a sample.
DESIGN OF EXPERIMENTS	**II 453**	Identify and apply the key concepts of solution methods for different experimental designs, by studying examples of application. Design and analyze experiments that aim to test hypotheses about the effects of procedures or treatments on the performance of a process.
INDUSTRIAL ERGONOMICS	**II 402**	Apply principles of ergonomics, industrial psychology and organization of work stations to obtain safe and efficient work.
PRODUCTION PLANNING AND CONTROL	**II 403**	Use appropriate techniques and models to plan and control operations of an organization to medium and short term; with special emphasis on inventory management.
STOCHASTIC METHODS	**II 440**	Construct mathematical models capable of representing real situations dynamics in time and getting the expected value of many possible outcomes.
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
LOGISTICS	**II 469**	Build mathematical models that support the decision-making process on distribution problems and implements algorithms for solutions. Also, build mathematical models that support the decision-making process concerning the location of facilities and implements algorithms to find solutions.
SIMULATION	**II 485**	Analyze a system by identifying its main components to develop a model that simulates behavior using a programming language (general purpose and/or specific purpose) and other support programs.
SIMULATION LAB	**II 486**	Develop models that simulate the behavior of systems using a programming language (general purpose and/or specific purpose) and other support programs.
APPLIED INDUSTRIAL ENGINEERING	**II 418**	Use appropriate techniques and models to plan and control operations of an organization to medium and short term; with special emphasis on inventory management.
LEAN MANUFACTURING	**II 445**	Apply the basic concepts of agile manufacturing, identify areas of application and use different ways of measuring their performance.

INFORMATION SYSTEMS	II 421	Create a computational and information culture at different levels of the organization, to align the strategic and tactical objectives of the business with the information processes inside and outside of them.
GENERAL STUDIES V (CO-CURRICULAR)		
GRADUATION PROJECT	II 491	Demonstrate ability to perform effectively and efficiently in the development of the graduation option you select.
TECHNICAL ELECTIVES		
SPECIAL TOPICS IN DESIGN OF EXPERIMENTS	II 411	Predict and evaluate the results obtained with integrated systems of people. Display an attitude of innovation, properly communicate orally and in writing. Use information technology efficiently and effectively and demonstrate ability to predict and evaluate the performance of systems.
FABRIC ANALYSIS AND DESIGN	IT 252	Identify and apply the fundamentals of the structure, design and analysis of woven fabrics.
COLORIMETRIC APPLICATIONS IN THE INDUSTRY	IT 495	Identify different color spaces, its instrumental measurement and its application to industry for quality control of the product.
BUSINESS DEVELOMENT	II 475	Apply the necessary resources to transform ideas and projects into workable, successful companies, committed and visionary and implementation of projects.
ELECTROMECHANIC INSTALLATIONS	IM 408	Identify suitable electrical device to the energy conversion process required for a particular situation, considering the corresponding rules for installation and operation.
SOLVING TEXTILE PROBLEMS	IT 466	Solve textile problems and apply the appropriate method to guarantee the permanence of the improvement achieved.
INTRODUCTION TO TEXTILES	IT 200	Demonstrate skills, attitudes and values founded on principles of Total Quality, to incorporate them into their daily work.
QUALITY CULTURE	II 200	Demonstrate skills, attitudes and values founded on principles of Total Quality, to incorporate them into their daily work.
APPLIED ERGONOMICS	II 427	Learn the appropriate ergonomics tools to be able to analyze case studies and real examples to design safe and efficient workstations.
BUSINESS SIMULATION	II 439	Correlate information for review, submission, evaluation and monitoring of investment projects and engineering services.
INDUSTRIAL CONSULTING	II 484	Direct a consulting project according to national and international standards in the field, to ensure the success of the same.
TAGUCHI DESIGN OF EXPERIMENTS	II 487	Solve common problems using Taguchi experimental design in industrial engineering, specifically related to building designs, and signal noise analysis.

SYSTEMS THEORY	**II 414**	Apply the systems approach to recognize the interrelationship of processes and thus predict the effects that will result in a process, the changes suffered by another.
MANAGEMENT SYSTEMS	**II 417**	Design, implement and improve management system; a management system is the structure that an organization manages the processes that transform inputs into a good or service that meets the objectives of the organization, such as the quality requirements of the customer, regulations in various areas or related objectives environment.
HYGIENE AND SAFETY	**II 408**	Design, implement and improve a system of health and safety management in accordance with the requirements of the Mexican standard NMX-SAST-001 equivalent to the international standard OHSAS 18011.
HUMAN RESOURCES MANAGEMENT	**BA 211**	Analyze and apply the most important HR concepts and functions within organizations
INFORMATION MANAGEMENT II	**BA 330**	Understand the key elements and technologies of E-Business and develop the skills to apply Internet technologies in company processes.
BUSINESS STRATEGIES	**BA 410**	Implement and develop the main conceptual, methodological and technological tools for organizational strategy.
SERVICE MARKETING	**MK 216**	Analyze service organizations and adjust marketing goals and strategies accordingly.
QUANTITATIVE MARKET RESEARCH	**MK 317**	Use and manage different types of techniques and their applications to obtain updated information on the market as a fundamental tool of a marketing information system. and the different objectives pursued market research. Develop guidelines for measuring consumer perceptions.

MECHANICAL ENGINEERING

BASIC MATH	MA 111	Master concepts and mathematical techniques, operate the set algebra, using the concepts of elementary algebra, algebraic expressions manipulate, build function graphs, geometric figures distinguish, operate trigonometric identities and control systems of equations.
INTRODUCTION TO MECHANICAL ENGINEERING	IM 101	Describe the activities you can perform during his professional life a Mechanical Engineer by reviewing career areas, applications and skills development to solve related problems creatively.
GENERAL STUDIES I	EG	
GENERAL STUDIES LAB I		
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
GENERAL STUDIES II	EG	
CALCULUS I	MA 130	Determine the domain of a given function. Limits apply and interpret if there are functions to calculate them. Explain continuity of a function in a given point or range. Learn the techniques and rules of differentiation, to apply to a function and interpret geometric and physically. Find the best linear approximation of a function at a given point. Sketching the graph of a function, determine their asymptotes, maximum, minimum and inflection points. And solve problems of extreme values. Calculating the integral of a given function. Calculate areas and volumes. Apply the properties of logarithmic and exponential functions to integrate or refer. Apply the properties of derivatives and integrals to transcendental functions.
LINEAR ALGEBRA	MA 127	Use the fundamental concepts of linear algebra. Understand and solve different systems of linear equations.
COMPUTER DRAWING LAB	IM 153	Master concepts of technical drawing, display of objects in the plane and space, rendering multiple views, representation of mechanical elements, recognize and interpret diagrams electrical, electronic, and plumbing, and the representation of welded joints, bolted and riveted.

PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
CALCULUS II	MA 132	Master basic integration techniques to choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
MECHANICS I	IM 216	Apply the principles governing the equilibrium of particles and rigid bodies subjected to coplanar and three-dimensional forces to the solution of problems related to mechanical engineering. Also, apply the principles of dry friction in solving balance problems and principles for centroid location of rigid bodies. Solve moment of inertia of areas.
MATERIALS SCIENCE I	IM 230	Define, identify and relate the different materials, based on its internal structure and composition. Relate the mechanical, electrical, thermal and magnetic properties with the internal structure and composition.
MATERIALS SCIENCE LAB I	IM 231	Relate the mechanical, electrical, thermal and magnetic properties of different materials with its internal structure and composition.
ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java
SECOND LANGUAGE III	ID	

VECTORIAL CALCULUS	MA 230	Pose, solve and interpret problems involving the concepts of trajectory, velocity vectors, acceleration, tangent, normal and binormal. Handle and interpret the concepts of gradient, divergence and rotation and their interrelationships. Pose, solve and interpret problems involving line integrals and surface. Manage and interpret the theorems of Green, Stokes and Gauss divergence. Calculate the gradient, divergence and rotational in rectangular coordinate systems, cylindrical and spherical.
ORDINARY DIFFERENTIAL EQUATIONS	MA 227	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
MECHANICS II	IM 316	Identify the bases to define the motion parameters for machine elements, from the basis of the equations of motion.
SOLID MECHANICS I	IM 254	Establish the basis to determine the response of the deformable solids by calculating the forces and resulting deformations, to the action of different load conditions. working machine elements such as beams, shafts and columns will be studied.
SOLID MECHANICS LAB I	IM 256	Manipulate different solids under different load conditions to observe in each case the strength, rigidity and stability of the materials.
MATERIALS SCIENCE II	IM 265	Analyze and argue the basic properties of ferrous alloys and relate of nonferrous alloys. Apply the basic principles of corrosion in engineering materials and their significance / importance in the selection and design. Analyze bases failure analysis and introduction to biomaterials, smart materials and nanomaterials.
MATERIALS SCIENCE LAB II	IM 266	Show the properties of ferrous alloys and relate nonferrous alloys. Apply basic experiments on corrosion engineering materials and their significance / importance in the selection and design and analyze the basis for failure analysis and introduction to biomaterials, smart materials and nanomaterials.
BASIC THERMODYNAMICS	IM 306	Describe and apply the principles of energy conservation, the second law of thermodynamics and entropy.

FLUID MECHANICS	IM 366	Analyze several common problems of fluid mechanics equations applying theoretical hydrodynamics both differential and integral form as applying the principle of Archimedes. Analyze problems of viscous flows and the concept of the boundary layer and check flow around a body immersed, analyze the drag and lift forces around vehicles and aerodynamic shapes. Master management concepts dimensional analysis, similarity and dimensionless number.
FLUID MECHANICS LAB	IM 367	Analyze and solve problems concerning fluid mechanics using experimental methodology.
MECHANICS III	IM 319	Apply the fundamental principles of the movement and experience in the application of the principles to a wide variety of situations in engineering.
SOLID MECHANICS II	IM 335	Calculate the conditions of stress and strain in machine parts subject to different load conditions.
SOLID MECHANICS LAB II	IM 336	Identify conditions under which load is under a structural element and apply appropriate equations depending on load conditions. Also, describe the physical effect caused by the load on the structural element and discuss the scope of the results obtained from the standpoint of the effects it would have on the structural element.
MANUFACTURING I	IM 302	Define and classify manufacturing processes commonly used in the metalworking and automotive industries. Classify the implementation of each process based on selection criteria and describing the scientific basis and all components of a manufacturing process. Select the processes for a particular application.
MANUFACTURING LAB I	IM 303	Develop skills in machines and tools for basic manufacturing processes with and without chip startup.
MEASUREMENT AND INSTRUMENTATION LAB	IM 322	Employ the most modern instrumentation available for measuring different magnitudes.
ENGINEERING THERMODYNAMICS	IM 307	Analyze and evaluate cycles and cooling power, gas mixtures and gas and steam applying them to air conditioning systems and the laws of thermodynamics in chemical reaction systems having more particularly in combustion and compressible flow.
VIBRACIONS	IM 308	Apply the principles and fundamental phenomena of vibrations in the analysis and design of mechanical systems.

VIBRACIONS LAB	IM 309	Analyze vibrations in time domain and frequency, by identifying the types of oscillatory motions of bodies and forces associated with them.
MECHANISMS	IM 377	Analyze the main mechanisms used in machines and machining in applied engineering.
MECHANISMS LAB	IM 378	Identify the basic elements that form a mechanism, verify the function of each within the same and analyzing the movement of the mechanism from the point of view kinematic. Also, identify and analyze the different types and functions of existing cams. Finally, list the different types of gears and parts that identify them.
MACHINE ELEMENTS	IM 389	Apply basic engineering concepts to calculate, select and size the components of a machine, activities carried out during the mechanical design process.
MANUFACTURING II	IM 395	Analyze manufacturing processes, diagramming all components and variables of the process and study its influence on the results and plan a manufacturing process for a need from planes product, material and resources resulting in a plan process.
MANUFACTURING LAB II	IM 396	Master machining operations in turning, milling and drilling, applying their theoretical knowledge in controlling cutting parameters, the sequence of operations and controlling the variables of the process, thereby optimizing the process.
FINITE ELEMENTS	IM 373	Apply the the Finite Element method as a means to analyze the stress and strain of the typical engineering structures.
AUTOMOTIVE ELECTIVES		
GENERAL STUDIES III (CO-CURRICULAR)	EG	
GENERAL STUDIES IV	EG	
GENERAL STUDIES V	EG	
FUNDAMENTALS OF HEAT TRANSFER	IM 402	Evaluate dimensional heat transfer and transient conduction, forced, natural and phase shift radiation and convection. Analyze different types of heat exchangers and evaluate the performance thereof.

FUNDAMENTALS OF HEAT TRANSFER LAB	**IM 403**	Evaluate power cycles and cooling, mixes of gas and steam, applications thereof to air conditioning systems. Analyze the laws of thermodynamics in systems with chemical reaction, particularly in combustion.
PROBABILITY AND STATISTICS	**AE 255**	Understand the importance of statistics in their field of study as: building a frequency table and interpret, define the basic terminology used in the statistics, represent and interpret a set of data in graphical and numerical form, applying the concepts of probability to calculate probabilities of events, interpret practical problems associated with random variables, and set their probability distributions, as well as means and variances for both discrete cases as continuous, distinguish different sampling distributions for both large samples and for small samples, estimating population using point estimates and confidence intervals and interpreting the results. Make inferences about population parameters by testing hypotheses and interpret their results.
DESIGN OF MECHANICAL SYSTEMS	**IM 428**	Apply the technical, economic and creative machine design and simple devices and more advanced operation and construction, to solve real industrial problems.
COMPUTER INTEGRATED MANUFACTURING	**IM 438**	Identify cases where the application of computer integrated technology offers tangible advantages in the manufacture of various products.
COMPUTER INTEGRATED MANUFACTURING LAB	**IM 439**	Program the CNC machinery of the Computer Integrated Manufacturing Laboratory using the appropriate codes and available CAD-CAM software.
INTRODUCTION TO AUTOMOTIVE ENGINEERING	**IM 409**	Analyze the performance of the basic vehicle assemblies, suspension systems, steering system, the transmission system and operation of braking systems.
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.

GRADUATION PROJECT I	IM 498	Plan and report professional work using methods, knowledge and skills acquired during their studies, specifically in Mechanical ngineering. Define the Graduation Project from the following options: professional thesis, textbook, educational multimedia, educational courses, laboratory manual, memory work experience, application project.
PROFESSIONAL SEMINAR	IM 441	Working a stay in a selected company and in contact with the real world in applying the knowledge he acquired in his career in a formal work environment in the industry.
AUTOMOTIVE MOTORS	IM 419	Select, operate and maintain the internal combustion engine adapted to the needs.
AUTOMOTIVE MOTORS LAB	IM 433	Diagnose the state of an internal combustion engine to ensure its operation and maintenance according to established needs.
GRADUATION PROJECT II	IM 499	Obtain results of professional work using methods, knowledge and skills acquired during his training as a mechanical engineer.
ENGINEERING WORKSHOPS	IM 492	Organize activities inherent to the study area such as practical national and international conferences, projects department, student representation, attendance at conferences, and so on.
BODYWORK AND INTERIOR ENGINEERING	IM 429	Automotive systems dominate referring to the body and interior of the vehicle.
AUTOMATIZATION ELECTIVES		
GENERAL STUDIES III (CO-CURRICULAR)	EG	
GENERAL STUDIES IV	EG	
GENERAL STUDIES V	EG	
HEAT TRANSFER FUNDAMENTALS	IM 402	Evaluate dimensional heat transfer and transient conduction, forced, natural and phase shift radiation and convection. Analyze different types of heat exchangers and evaluate the performance thereof.
HEAT TRANSFER FUNDAMENTALS LAB	IM 403	Evaluate power cycles and cooling, mixes of gas and steam, applications thereof to air conditioning systems. Analyze the laws of thermodynamics in systems with chemical reaction, particularly in combustion.

PROBABILITY AND STATISTICS	**AE 255**	Understand the importance of statistics in their field of study as: building a frequency table and interpret, define the basic terminology used in the statistics, represent and interpret a set of data in graphical and numerical form, applying the concepts of probability to calculate probabilities of events, interpret practical problems associated with random variables, and set their probability distributions, as well as means and variances for both discrete cases as continuous, distinguish different sampling distributions for both large samples and for small samples, estimating population using point estimates and confidence intervals and interpreting the results. Make inferences about population parameters by testing hypotheses and interpret their results.
DESIGN OF MECHANICAL SYSTEMS	**IM 428**	Apply the technical, economic and creative machine design and simple devices and more advanced operation and construction, to solve real industrial problems.
COMPUTER INTEGRATED MANUFACTURING	**IM 438**	Identify cases where the application of computer integrated technology offers tangible advantages in the manufacture of various products.
COMPUTER INTEGRATED MANUFACTURING LAB	**IM 439**	Program the CNC machinery of the Computer Integrated Manufacturing Laboratory using the appropriate codes and available CAD-CAM software.
ELECTRO-OLEO-PNEUMO-HYDRAULIC SYSTEMS	**IM 455**	Apply fundamental principles to define and analyze oleoneumohidráulicos systems. Gain experience in applying these principles in a wide variety of situations in engineering.
ELECTRO-OLEO-PNEUMO-HYDRAULIC SYSTEMS LAB	**IM 456**	Define and classify elements hydraulic pneumatic controls for applications in the engineering industry and automotive know the application of each circuit and its selection criteria describing the scientific basis for the hydraulic and pneumatic operation, and all components of a pneumohydraulic circuit and PLCs.
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.

GRADUATION PROJECT I	IM 498	Plan and report professional work using methods, knowledge and skills acquired during their studies, specifically in Mechanical ngineering. Define the Graduation Project from the following options: professional thesis, textbook, educational multimedia, educational courses, laboratory manual, memory work experience, application project.
PROFESSIONAL SEMINAR	IM 441	Work at a selected company, applying the knowledge acquired during their studies in a formal work environment in the industry.
CONTROL OF MECHANICAL SYSTEMS	IM 457	Model the behavior of systems, analyze the time response and frequency response of the system study. Implement dynamic control systems to study systems.
GRADUATION PROJECT II	IM 499	Obtain results of professional work using methods, knowledge and skills acquired during his training as a mechanical engineer.
ENGINEERING WORKSHOPS	IM 492	Organize activities inherent to the study area such as practical national and international conferences, projects department, student representation, attendance at conferences, and so on.
INTRODUCTION TO ROBOTICS	IM 475	Apply knowledge of kinematics and dynamics to calculate forces, velocities and displacements that will control the movement of robots and manipulators for a specific task.
TECHNICAL ELECTIVES		
HYGIENE AND SAFETY	II 408	Design, implement and improve a system of health and safety management in accordance with the requirements of the Mexican standard NMX-SAST-001, equivalent to the international standard OHSAS 18011.
MATERIAL SELECTION	IM 488	Define, recognize, list, and outline procedures for designing and selecting metallic polymeric materials, ceramic and. Also, apply the basic principles and criteria for the selection of different materials engineering.
DESIGN AND FABRICATION OF TOOLS	IM 486	Analyz and evaluate the main cooling system and its components, as well as air conditioning including automotive.

ENVIRONMENTAL IMPACT	IM 479	Assess the environmental impact on mechanical systems. Coordinate the resolution of problems related to contamination of the water, the air, the ground; as well as deterioration of flora and fauna. Make manifest, audits, environmental monitoring programs and analyze compliance with environmental legislation.
GLOBAL ENGINEERING	IM 478	Analyze influences on decision making in engineering, culture work of national, regional, organizational, coordination mechanisms, localization of products and trade agreements.
SYSTEMIC INNOVATION	IM 442	Apply the methods and theories of innovation to develop creative thinking and collaborative work style.
ETHICS IN ENGINEERING	IM 471	Identify different situations where there are problems of professional ethics and thus analyze the consequences of action or failure to act and recognize the consequences of both actions.
REFRIGERATION AND AIR CONDITIONING	IM 466	Analyze and evaluate the main cooling system and its components, as well as air conditioning including automotive. Analyze the characteristics and application of the psychrometric chart.
ENERGY MACHINES	IM 477	Analyze and evaluate the flow through pipelines. Choosing flow machines such as pumps, turbines and fans. Employ heat transfer equipment such as boilers, furnaces, solar collectors and heat pumps.
MECHANICAL ELECTRONIC ELEMENTS	IM 440	Identify electronic elements used for control, operation and implementation of mechanical systems, and the different logical compounds can be applied in the operation of sequential machines.
INDUSTRIAL ENGINEERING ELECTIVES		
STATISTICAL PROCESS CONTROL	II 420	Apply statistical tools to determine the ability of the processes, identify the presence of special causes of variation in them and determine the fate of lots of products from information provided by a sample.
HYGIENE AND SAFETY	II 408	Design, implement and improve a system of health and safety management in accordance with the requirements of the Mexican standard NMX-SAST-001 equivalent to the international standard OHSAS 18011.

MANAGEMENT SYSTEMS	II 417	Design, implement and improve management system; a management system is the structure that an organization manages the processes that transform inputs into a good or service that meets the objectives of the organization, such as the quality requirements of the customer, regulations in various areas or related objectives environment.
BUSINESS ELECTIVES		
ECONOMIC ENGINEERING	II 390	Apply various financial techniques to analyze requirements and investment projects, choosing alternatives with higher yields and consistent with the strategic planning of the company.
INDUSTRIAL CONSULTING	II 484	Direct a consulting project according to national and international standards in the field, to ensure the success of the same.
BUSINESS DEVELOPMENT	II 475	Transform ideas and projects into workable, successful, committed and visionary companies. Develop different models to assess and implement projects.

CHEMICAL ENGINEERING

INTRODUCTION TO CHEMICAL ENGINEERING	IQ 160	Get the basic knowledge about the application areas of chemical engineering to make decisions about specialty areas. Know the basics of matter to perform basic operations balances matter, proper handling systems conversion units and recognition of types of flowcharts and usage.
CHEMISTRY FUNDAMENTALS	QC 101	Handle basic knowledge of chemistry, both phenomenologically as the elements and compounds in chemical reaction, explaining the behavior of matter based on atomic theory and other subsequent theories related to chemical bonds and the molecular geometry
CHEMISTRY FUNDAMENTALS LAB	QC 105	Correct and properly used laboratory materials and chemicals. Apply the knowledge gained to calibrate volumetric instruments and prepare solutions of different concentrations. Similarly, experimentally establish the performance of a chemical reaction based on the amounts of products produced
BASIC MATH	MA 111	Solve problems by using basic math concepts and techniques and efficiently operate the set algebra in solving problems of their professional practice. Algebra concepts used to construct graphs of functions related to current problems

SECOND LANGUAGE I	ID	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	
LINEAR ALGEBRA	MA 127	Handle the fundamental concepts of linear algebra. Also distinguish and solve different systems of linear equations
CALCULUS I	MA 130	Apply differential calculus in problem solving and decision making, through the solution of different exercises such as: determining the domain of a given function, finding the linear approximation of a function at a given point and drawing the graph of a function, determine its asymptotes, maxima, minima, and inflection points
GENERAL CHEMISTRY	QC 103	Obtain a solid knowledge base on the properties of the material, its chemical characteristics and natural physical recovery of elements and compounds, as well as the treatment of chemical equilibrium and dynamic.
MATERIAL BALANCE	IQ 210	Develop a clear and systematic methodology to formulate and solve material balances for different processes
SECOND LANGUAGE II	ID	
CALCULUS II	MA 132	Master basic integration techniques choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
ORGANIC CHEMISTRY I	QC 223	Understand the different functional groups and structures of organic compounds and identify various organic reactions and their mechanisms. Also, properly handle the nomenclature, stereochemistry, structure and reactivity in acid-base processes.
ORGANIC CHEMISTRY LAB I	QC 225	Develop the necessary skills and identify the basic material required for any organic chemistry laboratory. Use material separation, purification and identification of organic substances. Apply all safety requirements for work in the laboratory.

ENERGY BALANCE	IQ 212	Develop a clear and systematic methodology to formulate and solve energy balances for different processes
THERMOPHYSICAL PROPERTIES LAB I	IQ 215	Get skill in handling laboratory equipment and accessories, as well as the interpretation of the results obtained relate knowledge in the Energy Balances course
SECOND LANGUAGE III	ID	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose
ORDINARY DIFFERENTIAL EQUATIONS	MA 227	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
GENERAL STUDIES II	EG	
ANALYTICAL CHEMISTRY	QC 341	Identify the principles of analytical chemistry, discovering how they are applied in chemistry and related disciplines, as well as in the life sciences and health.
ANALYTICAL CHEMISTRY LAB	QC 345	Develop basic analytical techniques and quantitative analytical chemistry work. Identify the steps in a method of analysis in a systematic and responsible manner, always seeking the accuracy and precision in their work.
ENTROPY BALANCE	IQ 310	Analyze thermodynamic processes using the principles of thermodynamics, formulate and solve the entropy and exergy balance for different forms of interactions or energy transfer between a system, around and environment
THERMOPHYSICAL PROPERTIES LAB II	IQ 216	Formulate and solve the entropy and exergy balance using information thermophysical properties
STRUCTURED PROGRAMMING	IQ 250	Develop a structured methodology for problem solving, programming pseudocode, covering quality guidelines in the design and documentation of the generated program

STRUCTURED PROGRAMMING LAB	IQ 251	Use structured programming effectively and efficiently, using Visual Basic for Applications (using Excel), as a tool for engineering calculations
INSTRUMENTAL ANALYTICAL CHEMISTRY	QC 342	Understand instrumental analysis techniques to develop a critical character when judging the accuracy and precision of experimental data
INSTRUMENTAL ANALYTICAL CHEMISTRY LAB	QC 347	Identify various instrumental analysis methods available for analyzing samples particular characteristics
PROPERTY PREDICTION	IQ 312	Develop equations to describe PVT property and thermodynamic ideal and real homogeneous phase and heterogeneous phase, to estimate and predict these properties from: experimental data, equations of state and the corresponding states principle
FREE ENERGY BALANCES	IQ 314	Develop the fundamental equations to predict the thermodynamic equilibrium of multicomponent mixtures in homogeneous and heterogeneous phase. Develop models to predict the equilibrium constants in heterogeneous systems, chemical reaction, and analyzing the effect of temperature and pressure equilibrium constants
PHASE EQUILIBRIUM LAB	IQ317	Determine the parameters necessary ro calculate equilibrium constants for the components in their blends and chemical reactions. Use software to reproduce experimental phase equilibrium data
TRANSPORT PROCESSES I	IQ 328	Understand the mechanisms of transport processes momentum and heat for use in processes associated transfer and apply to troubleshooting industrial and environmental
TRANSPORT PROCESSES LAB I	IQ 329	Make experimental determinations allow observation mechanisms transport processes momentum and heat. Solve problems in which the fundamentals of processes are used for heat transfer time and oriented to the current problems of the chemical industry
NUMERICAL METHODS	MA 318	Learn elementary numerical methods for approximation of solutions, annotation and estimation of errors in a wide range of mathematical problems: resolution of linear and non-linear equations, numerical interpolation and integration, as well as solution of differential equations. Mathematically model a situation and solve problems with mathematical techniques using those numerical methods that best fit the given characteristics. Know how to discern which of a range of numerical methods is the most appropriate when solving a given problem, depending on the characteristics that concur. Find appropriate intervals to numerically approximate zeros of

		nonlinear functions. Solve linear systems using direct and iterated methods
CHEMICAL PROCESSES		
PROBABILITY AND STATISTICS	**AE 255**	Apply the concepts of probability to calculate probabilities of events. In addition to interpret practical problems related to random variables, estimating population parameters using point estimates and confidence intervals and interpret results
TRANSPORT PROCESSES II	**IQ 333**	Know the mechanisms of mass transport processes to use them in the associated transfer processes and apply them to the solution of industrial and environmental problems
TRANSPORT PROCESSES LAB II	**IQ 334**	Observe the mechanisms of mass transport processes to use them in the associated transfer processes and apply them to the solution of industrial and environmental problems
FLOW UNIT OPERATIONS IN FLUIDS	**IQ 322**	Understand the behavior of fluids to design equipment in which transfer processes are carried out in tubes, ducts and their accessories
FLOW UNIT OPERATIONS IN FLUIDS LAB	**IQ 335**	Experiment in equipment at pilot plant level related to fluid flow to interpret the results and evaluate their performance, relating them to the knowledge of the Fluid Flow Unit Operations course
HEAT TRANSFER UNIT OPERATIONS	**IQ 324**	Design, select and operate equipment such as heat exchange heat exchangers, condensers and evaporation systems
HEAT TRANSFER UNIT OPERATIONS LAB	**IQ 336**	Experiment in equipment at pilot plant level related to fluid flow to interpret the results and evaluate their performance, relating them to the knowledge of the Heat Transfer Unit Operations course
ECONOMIC ENGINEERING	**II 390**	Apply various financial techniques to analyze requirements and investment projects, choosing alternatives with higher yields and consistent with the strategic planning of the company
PROCESS SECURITY AND ENVIRONMENTAL PROTECTION	**IQ 454**	Apply the conceptual foundations of security and protection of the environment in industries, theoretical and legal foundations of security and protection of the environment in industries including regulations associated and study models and computational tools for application in the design of chemical processes .

MASS TRANSFER UNIT OPERATIONS OF I	IQ 412	Understand unit operations involving mass transfer in fluid phase both equilibrium stages and equipment of continuous contact. Study the principles and different methods for designing humidification equipment, distillation, absorption, desorption and extraction
MASS TRANSFER UNIT OPERATIONS OF LAB I	IQ 413	Experiment in equipment at pilot plant level related to fluid flow to interpret the results and evaluate their performance, relating them to the knowledge of the Mass Transfer Unit Operations course
KINETICS AND HOMOGENEOUS REACTORS	IQ 407	Define and general laws and principles related to any chemical transformation of one or more reactive substances in products, to design and operate properly homogeneous chemical reactors, in the presence or not of a catalyst solution.
KINETICS AND HOMOGENEOUS REACTORS LAB	IQ 431	Evaluate kinetic parameters of various chemical reactions and apply these parameters to the design of chemical reactors in homogeneous phase
PROCESS ENGINEERING I	IQ 440	Master the input and output interfaces of a sequential modular process simulator as a tool to do the Analysis and evaluation of a topology of a flow diagram of a chemical process under certain operating conditions, performing the Balances of Matter and energy, the calculation of thermodynamic properties, phase equilibrium, and calculation of heat and work transfer parameters in each of the equipment
PROCESS ENGINEERING LAB I	IQ 441	Use different software available for chemical process simulation to analyze a flowchart of process and operating conditions.
STATISTICAL PROCESS CONTROL	II 420	Analyze the current concepts of quality control to be able to design and implement appropriate control tools for both production processes and services for businesses to meet the quality requirements of customers
SOCIAL RESPONSIBILITY	RS 498	Reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way
GRADUATION PROJECT I	IQ 491	Start a research project in Chemical Engineering under the supervision of a professor.

MASS TRANSFER UNIT OPERATIONS II	IQ 416	Get the fundamentals of unit operations involving mass transfer in the presence of a phase or a solid barrier. Analyzing the principles and different design methods for drying equipment, crystallization, filtration, centrifugation, adsorption, ion exchange and membrane separation
MASS TRANSFER UNIT OPERATIONS LAB II	IQ 417	Experiment in equipment at pilot plant level related to fluid flow to interpret the results and evaluate their performance, relating them to the knowledge of the Mass Transfer Unit Operations course
ELECTROMECHANIC INSTALLATIONS	IM 408	Analyze the design and use of electrical devices to choose from so suitable devices required for power generation in particular situations, considering the relevant regulations for installation and operation.
CATALYSIS AND HETEROGENEOUS REACTORS	IQ 408	Describe and understand the behavior of the catalytic surfaces and their relationship to chemical reactions, and basic concepts for designing and operating properly chemical reactors in which are present two or more phases
PROCESS ENGINEERING II	IQ 442	Develop different methods for the synthesis of chemical processes, as well as the use of software as a primary tool for inducing a flow chart of process and operating conditions
PROCESS ENGINEERING LAB II	IQ 446	Detail and apply different methods for the synthesis of chemical processes, as well as the use of software as a primary tool for inducing a flow chart of process and operating conditions
GENERAL STUDIES III	EG	
GRADUATION PROJECT II	IQ 492	Raise and initiate the development of a research project in Chemical Engineering under the supervision of a teacher
GENERAL STUDIES IV	EG	
GENERAL STUDIES V (CO-CURRICULAR)	EG	
PROCESS DYNAMICS AND CONTROL	IQ 452	Implement and formulate laws and the general principles relating to the control of a chemical plant to meet the requirements of safety, production specifications, regulations to protect the environment, operational limits and the economy of the process.
PROCESS DYNAMICS AND CONTROL LAB	IQ 453	Experiment in equipment at pilot plant level related to fluid flow to interpret the results and evaluate their performance, relating them to the knowledge of the Process Dynamics and Control course

DESIGN OF CHEMICAL PLANTS	IQ 450	Apply the knowledge necessary for the design process of a chemical industrial plant where the matter concerned for processing into useful products, all contemplating industrial safety and the treatment of contaminated waste.
ENVIRONMENTAL PROCESSES		
PROBABILITY AND STATISTICS	AE 255	Apply the concepts of probability to calculate probabilities of events. In addition to interpret practical problems related to random variables, estimating population parameters using point estimates and confidence intervals and interpret results
TRANSPORT PROCESSES II	IQ 333	Understand the mechanisms of mass transport processes for use in processes associated transfer and apply to troubleshooting industrial and environmental
TRANSPORT PROCESSES LAB II	IQ 334	Observe the mechanisms of mass transport processes to use them in the associated transfer processes and apply them to the solution of industrial and environmental problems
FLUID FLOW UNIT OPERATIONS	IQ 322	Know the behavior of fluids to design equipment in which transfer processes are carried out in tubes, ducts and their accessories
FLUID FLOW UNIT OPERATIONS LAB	IQ 335	Experiment in equipment at pilot plant level related to fluid flow to interpret the results and evaluate their performance, relating them to the knowledge of the Fluid Flow Unit Operationsl course
HEAT TRANSFER UNIT OPERATIONS	IQ 324	To design, selection and operation of equipment such as heat exchange heat exchangers, condensers and evaporative systems
HEAT TRANSFER UNIT OPERATIONS LAB	IQ 336	Experiment in equipment at pilot plant level related to fluid flow to interpret the results and evaluate their performance, relating them to the knowledge of the Heat Transfer Unit Operations course
MICROBIOLOGY FOR ENGINEERS	IA 231	Describe and compare the structures of eukaryotic and prokaryotic cells. Also, learn to classify microorganisms according to their nutritional requirements and propose methods of isolation, culture, detection and enumeration for different types of microorganisms
MICROBIOLOGY FOR ENGINEERS LAB	IA 232	Know the laboratory techniques to determine the microbial content of food samples, know how to prepare culture media and know the effect of various physical and chemical conditions on microbial development

PROCESS SECURITY AND ENVIRONMENTAL PROTECTION	**IQ 454**	Apply the conceptual foundations of security and protection of the environment in industries, theoretical and legal foundations of security and protection of the environment in industries including regulations associated and study models and computational tools for application in the design of chemical processes .
MASS TRANSFER UNIT OPERATIONS I	**IQ 412**	Get the fundamentals of unit operations involving mass transfer in fluid phase both equilibrium stages and equipment of continuous contact. Study the principles and different methods for designing humidification equipment, distillation, absorption, desorption and extraction
MASS TRANSFER UNIT OPERATIONS LAB I	**IQ 413**	Experiment in equipment at pilot plant level related to fluid flow to interpret the results and evaluate their performance, relating them to the knowledge of the Mass Transfer Unit Operations course
ENVIRONMENTAL CHEMISTRY	**IQ 401**	Present and organize information relevant environmental chemistry to design remediation systems and environmental protection.
ENVIRONMENTAL BIOTECHNOLOGY	**IQ 400**	Analyze aspects of biochemical kinetics and methodology suitable for reactors designed for intermittent and continuous biotechnological processes using microorganisms which enzyme systems
GENERAL STUDIES III	**EG**	
ECONOMIC ENGINEERING	**II 390**	Apply various financial techniques to analyze requirements and investment projects, choosing alternatives with higher yields and consistent with the strategic planning of the company
SOCIAL RESPONSIBILITY	**RS 498**	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
GRADUATION PROJECT I	**IQ 491**	Develop a research project in Chemical Engineering under the supervision of a teacher
MASS TRANSFER UNIT OPERATIONS II	**IQ 416**	Get the fundamentals of unit operations involving mass transfer in the presence of a phase or a solid barrier. Analyze the principles and different design methods for drying equipment, crystallization, filtration, centrifugation, adsorption, ion exchange and membrane separation

MASS TRANSFER UNIT OPERATIONS LAB II	IQ 417	Experiment in equipment at pilot plant level related to fluid flow to interpret the results and evaluate their performance, relating them to the knowledge of the Mass Transfer Unit Operations course
ELECTROMECHANIC INSTALLATIONS	IM 408	Analyze the design and use of electrical devices to choose from so suitable devices required for power generation in particular situations, considering the relevant regulations for installation and operation.
TREATMENT OF RESIDUAL WATER	IQ 402	Develop the design of primary and secondary treatment systems focused on Microbiology and the kinetics involved in the design of aerobic and anaerobic physicochemical and biological treatment systems.
AIR POLLUTION CONTROL	IQ 403	Model pollution dispersion using mathematical models, to identify the types of contaminants and technologies applicable to the removal of each to select and design of control equipment and particle emissions of gases emissions
TREATMENT OF SOLID RESIDUE	IQ 404	Calculate physical and chemical properties of solid waste for designing processes treatment, disposal, incineration and reuse. Meet the applicable standards for treatment systems and municipal solid waste processing and energy recovery, re-use and recycling to handle, store and transport hazardous and non-hazardous solid waste.
GRADUATION PROJECT II	IQ 492	Develop and complete a research project in Chemical Engineering under the supervision of a teacher
GENERAL STUDIES IV	EG	
GENERAL STUDIES V (COCURRICULAR)	EG	
ENVIRONMENTAL ANALYSIS	IQ 405	Define and implement tests developed for the study of the analysis, instrumental and treatments air, water and soil. Develop skills laboratory for analysis in environmental engineering, applying the knowledge gained in experiments to solve problems on purpose, linking the processes and unit operations applied to environmental engineering
DESIGN OF ENVIRONMENTAL CONTROL EQUIPMENT	IQ 406	Detail and know the most important steps in the process towards developing a design foundation to select with the equipment necessary for the integration of engineering projects, design control equipment and process environmental pollution
CHEMICAL PROCESSES ELECTIVES		
TREATMENT OF RESIDUAL WATER	IQ 402	Develop the design of primary and secondary treatment systems focused on Microbiology and the kinetics involved in the design of aerobic and anaerobic physicochemical and biological treatment systems

AIR POLLUTION CONTROL	IQ 403	Model pollution dispersion using mathematical models, to identify the types of contaminants and technologies applicable to the removal of each to select and design of control equipment and particle emissions of gases emissions
TREATMENT OF SOLID RESIDUALS	IQ 404	Calculate physical and chemical properties of solid waste for designing processes treatment, disposal, incineration and reuse. Meet the applicable standards for treatment systems and municipal solid waste processing and energy recovery, re-use and recycling to handle, store and transport hazardous and non-hazardous solid waste
EXTRACTION IN SUPERCRITICAL CONDITIONS	IQ 480	Define the fundamentals of phase equilibrium, solvent extraction and solubilities at elevated pressures; to evaluate extraction processes under supercritical conditions and set directions to explore new applications in chemical engineering and food using supercritical fluids
PROFESSIONAL SEMINAR	IQ 438	Link the student with the industry through professional seminar activities in this area.
VECTORIAL CALCULUS	MA 230	Handle and interpret the concepts of gradient, divergence and rotation and their interrelationships to solve engineering problems which engage rectangular coordinate systems, cylindrical and spherical
ELECTIVES IN ENVIRONMENTAL PROCESSES		
STATISTICAL PROCESS CONTROL	II 420	Analyze the current concepts of quality control to be able to design and implement appropriate control tools for both production processes and services for businesses to meet the quality requirements of customers.
EXTRACTION IN SUPERCRITICAL CONDITIONS	IQ 480	Define the fundamentals of phase equilibrium, solvent extraction and solubilities at elevated pressures; to evaluate extraction processes under supercritical conditions and set directions to explore new applications in chemical engineering and food using supercritical fluids
PROCESS ENGINEERING I	IQ 440	Master interfaces input and output simulator sequential modular process as a tool for analysis and evaluation of a topology of a flow diagram of a chemical process to specific operating conditions, performing material balances and energy, calculation of thermodynamic properties, phase equilibrium, and calculating the parameters of heat transfer and work in each of the teams.
PROCESS ENGINEERING II	IQ 442	Develop different methods for the synthesis of chemical processes, as well as the use of software as a primary tool for inducing a flow chart of process and operating conditions

PROFESSIONAL SEMINAR	IQ 438	Link to the student with the industry through professional seminar activities in the field of specialty.
KINETICS AND HOMOGENEOUS REACTORS	IQ 407	Define and general laws and principles related to any chemical transformation of one or more reactive substances in products, to design and operate properly homogeneous chemical reactors, in the presence or not of a catalyst solution
VECTORIAL CALCULUS	MA 230	Handle and interpret the concepts of gradient, divergence and rotation and their interrelationships to solve engineering problems which engage rectangular coordinate systems, cylindrical and spherical

LICENCIATURA IN EDUCATION INNOVATION

EDUCATION INNOVATIONS	ED 113	Propose and develop innovative educational projects that seek to contribute to the formation of a Mexican educational system firmly rooted in our reality.
EDUCATION THEORIES	ED 112	Identify educational trends that are used both in the different educational levels and in other educational contexts and thus locate their own perspective as an educator, regardless of the profession to play.
CRITICAL AND CREATIVE THINKING SKILLS	ED 153	Elaborate categorical, causal, evaluation and proposal arguments in a logical, consistent, creative and relevant way that allows the student to acquire solidly founded ideas, concepts and theories.
GENERAL STUDIES I	EG	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE II	ID	
CLASSROOM DIAGNOSIS	ED 120	Develop the thinking skills, attitudes and skills necessary to interact with a real school environment and develop, based on that experience, a diagnostic project to obtain information about a problematic situation in the classroom.
DIAGNOSIS OF EDUCATION INSTITUTIONS	ED 121	Diagnose an educational institution in one or more of its various dimensions and identify the causes of the problems encountered.

DIAGNOSIS OF COMMUNITY SCHOOLS	ED 122	Identify a need or problem in a real context in terms of the social purposes of education and its relationship with the actions of the school, thus assessing the importance of the social dimension of the school.
QUALITATIVE METHODS	ED 154	Compare the two existing paradigms of educational research and apply qualitative methodology to develop a simple educational research project.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
CLASSROOM PROJECTS	ED 213	Propose innovative solutions to the problems currently afflicting the teaching-learning process in our country. Develop projects (diagnosis - solution / application - assessment) complete and well integrated to put into practice these proposals.
PROJECTS IN EDUCATION INSTITUTIONS	ED 214	Design projects and educational strategies for the development of educational institutions.
PROJECTS IN COMMUNITY SCHOOLS	ED 215	Develop applied-research projects in the school-community relationship from the macrosocial and microsocial perspective, inductive and deductive, of cultural, intensive and extensive interaction, and of analysis of processes from the theoretical-methodological knowledge acquired.
QUANTITATIVE METHODS	ED 216	Apply a variety of concepts, methods and quantitative research in alternative education in the development of a research project carried out in a local school. The student should practice the development of empirical-experimental research, using the scientific method, the approach of hypotheses, search and information management, and various types of statistical techniques and analytical tools and data collection. Finally they must participate planning, performing and presenting orally and in writing, educational research work.
CREATIVE-INNOVATOR THINKING SKILLS	ED 217	Apply instructional models to develop innovative and creative thinking.
SECOND LANGUAGE II	ID	
GENERAL STUDIES II	EG	
EVALUATION OF CLASSROOM PROJECTS	ED 223	Develop thinking skills, attitudes and skills needed to implement and evaluate option(s) ,selected solution(s) for the ED-213 course (classroom projects) and resolve the problematic

		situation of the room class diagnosed during ED-120 (Diagnosis classroom) class.
EVALUATION OF EDUCATION PROJECTS	**ED 224**	Develop and implement program evaluation projects or institutions appropriate to particular situations.
EVALUATION OF SCHOOL-COMMUNITY PROJECTS	**ED 225**	Evaluate research-application projects to improve the school-community relationship in a real project, applying quantitative and qualitative methodologies.
SOCIETY AND STATE IN LATIN AMERICA	**RI 224**	Review the historical processes that affected the Latin American colonial societies and master the main theories of the nature of the dependence of Latin American countries on developed countries.
GENERAL STUDIES III	**EG**	
DETECTION OF TRAINING NEEDS	**ED 310**	Detect development needs, education or training in a company that the student will choose, considering all relevant factors which influence so select an appropriate model and techniques to get you to analyze and interpret the information obtained, considering the macro aspects political and social, legal frameworks and organizational factors that influence this activity.
DO: AREAS OF INTERVENTION	**ED 311**	Understand the functioning of an organization and why the need to generate changes in it, identify when intervenes DO, what type they are these interventions and how they can make the generated change is accepted at all levels of the organization.
GOVERNMENT EDUCATION PROJECTS	**ED 312**	Design proposals for training and/or training of staff to contribute to strengthening the dignity and effectiveness of public service.
SOCIETY EDUCATION PROJECTS	**ED 315**	Design, manage, implement and evaluate projects in education and society relationship from, intensive and extensive, micro-social, macro-social and inductive and deductive perspectives of cultural interaction and process analysis.
ORGANIZATIONAL BEHAVIOR	**BA 201**	Develop and understand the dynamics of people in organizations, to conduct themselves assertively, and thus contribute to organizational goals.

CHILD PSYCHOLOGY	PS 123	Achieve a unitary knowledge of child development human and understand the different facets of conception, birth, childhood and preadolescence of the human being, also, recognize biological, psychological and socio-cultural changes occurring within the person during development in childhood .
DEVELOPMENT OF TRAINING PLANS AND PROGRAMS	ED 320	Design and implement a plan and business training program based on theoretical considerations of science education in the business field.
DO: INTERVENTION PROGRAMS	ED 321	Identify strengths and weaknesses, problem areas, opportunities and discrepancies between the desired vision of the future of the organization and its current situation.
HUMAN RESOURCES MANAGEMENT	BA 211	Identify and apply the most important HR concepts and functions within organizations.
EDUCATION EVALUATION IN GOVERNMENT	ED 325	Design strategies to create and maintain the concept of learning organizations in government agencies. This is based on permanent evaluation processes, so that its human resources can respond to the demands of a changing society.
EDUCATION IMPACTS IN SOCIETY	ED 326	Implement, manage, finance and develop applied research projects, education and society relationship based on the diagnosis made in the above matter.
GENERAL STUDIES IV	EG	
EVALUATION OF TRAINING INTERVENTION	ED 413	Design and implement an evaluation plan for training interventions based on theoretical and technical considerations that provide science education program evaluation.
CONSULTING: HIRING AND MANAGING IT	ED 414	Master the conceptual and operational management of the basic concepts of consulting and Organizational Development interventions to make decisions regarding hiring and follow-up.
NGO'S AND SOCIAL SUBJECTS	ED 416	Identify the characteristics and strengths of NGOs as a key actor in civil society and make a diagnosis of social and educational needs of a particular case, by immersion in fieldwork.

PROMOTOR FORMATION STRATEGIES	**ED 417**	Develop training plan promoters from recognizing needs of an NGO, based on the theoretical review and practice a variety of successful programs.
GENERAL STUDIES V (CO-CURRICULAR)		
EDUCATION FOR CRITICAL MEDIA RECEPTION	**ED 418**	Critically analyze the information received from the media (with emphasis on TV), and design strategies to promote these skills in other population groups and areas formal or non-formal education.
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
DIALOGUE AND CONSENSUS SKILL	**ED 420**	Apply basic listening and speaking skills demanding careful collective construction of meaning in an argumentative group dialogue.
CONSTRUCTION OF KNOWLEDGE AND HUMAN DEVELOPMENT	**ED 421**	Assess the epistemological postures construction of knowledge in its relation to the construction of individual and social identity of the subject in today's world from the perspective of human development.
DESIGN TRAINING RESEARCH	**ED 429**	Design and implement research models to design and develop innovative learning systems both in school settings at any educational level, formal and business areas, and popular.
EDUCATION PROCESSES AT NGO'S	**ED 423**	Develop an educational intervention that responds to identified needs in an NGO, based on knowledge of theories and methodologies appropriate non-governmental organizations.
PROMOTER FOLLOW-UP	**ED 424**	Design and implement training plan promoters in a non-governmental organization (NGO) and draft a monitoring report based on a methodology of formative evaluation or systematization of experiences.
GRADUATION PROJECT I	**ED 438**	Develop protocol thesis project, the theoretical framework and methodology.

GRADUATION PROJECT II	ED 439	Collect information and data of their research and analyze data and prepare its final report.
ELECTIVES		
KNOWLEDGE MANAGEMENT IN EDUCATION	ED 430	Diagnose and identify a problem related to the management of knowledge in an educational organization and propose viable, effective and efficient solutions within the framework of the theory that has developed on the subject. They should show this capacity through the development of a written report, high quality.
LEADERSHIP TO FACILITATE THE CONSTRUCTION OF KNOWLEDGE	ED 431	Analyze the influence of the leader in the development or social impairment because of the interrelation of coexistence within each organization, and the impact this may have on the effectiveness of organizational activities and overall human behavior of people coexist in organizations.
ONLINE LEARNING AND COLLABORATIVE WORK	ED 433	Build and apply knowledge and skills necessary to develop an innovative educational project that seeks to apply models and methods for collaborative learning as an integral part of teaching and learning processes that take place in an educational institution.
MANAGEMENT AND FINANCING OF SOCIAL PROJECTS	ED 434	Develop proposals to manage, finance and develop applied research projects, education and society relationship.
ETHICAL AND SOCIAL RESPONSIBILITIES OF INSTITUTIONS	ED 435	Analyze the social responsibility actions of civilian institutions and government, to assess the impact of such actions on their target populations.
INTERCULTURAL EDUCATION AND HUMAN RIGHTS	ED 436	Recognize methodological principles and strategies of intercultural education and human rights in local, national and global programs. Develop dispositions and attitudes of tolerance and respect for cultural diversity.

LICENCIATURA IN LITERATURE

GENERAL STUDIES I	EG	

LITERARY MODELS: FICTION	**LI 154**	Analyze basic fiction genres: the epic (the Mesopotamian and classical epic), the novel and the short story. Discerning narratology and respective theories on such genres as working tools to facilitate, on the one hand, to establish structural and thematic between them and, on the other hand, find distinctions and interpret narrative works paradigmatic, from the Mesopotamian epic to novels and stories today of the Western world, through the classical epic. Selected works relate to the historical context in which they occur and the most relevant critical literature about them.
THEORY AND CRITICISM	**LI 164**	Analyze, compare and contrast the major theoretical and critical texts of the nineteenth century on literature. Distinguish different approaches to the literary text: philosophical, sociological, hermeneutics, aesthetics, psychoanalysis, among others.
PRE-HISPANIC LITERATURE	**LI 171**	Analyze pre-Hispanic literature in its main manifestations. Develop a general description of pre-Hispanic culture. Interpret the uniqueness of pre-Hispanic cultural production and its subsequent categorizations.
INTRODUCTIN TO LITERARY CREATION	**LI 180**	Develop writing skills for various types of literary writings. Apply the resources of literature to writing academic essays.
THOUGHT AND LANGUAGE	**PC 114**	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
LITERARY MODELS: THEATER	**LI 155**	Identify the basic characteristics of the drama and use them in the analysis of dramatic texts. Distinguish the general characteristics of the main dramatic genres. Analyze the historical evolution of the genre through the concepts of some essential theoretical texts and identifying its relations, or not, with the dramaturgy of his time.

LITERARY THEORY OF THE 20TH CENTURY	**LI 165**	Analyze, compare and contrast the major theoretical and critical texts of the twentieth century on literature. Consider different approaches to the literary text: linguistic, formalist, structuralist, sociological, philosophical, aesthetic, psychoanalytical, and so on.
LITERATURE OF THE CONQUEST	**LI 172**	Identify and analyze the set of texts that are part of the literature of discovery and conquest, its historic location, the conditions of emergence of such literature, his works and essential characteristics.
SPANISH MEDIEVAL LITERATURE	**LI 181**	Analyze the broad outlines of medieval Spanish literature, linking history with literary language. Analyze, compare and contrast the representative works with the names and figures of the essential authors in the historical, cultural and social context.
SECOND LANGUAGE I	**ID**	
PROFESSIONAL WRITING	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
LITERARY MODELS: POETRY	**LI 254**	Understand the theoretical and methodological elements to analyze poetry. Describe in general terms the path of poetry, with emphasis on Western poetry.
DISCOURSE ANALYSIS	**LI 264**	Identify, compare and contrast the main currents or trends emerged as a result of reflection on language. Basing analysis of specific speeches by the theories studied.
HISPANIC AMERICAN LITERATURE (UNTIL THE 18TH CENTURY)	**LI 273**	Identify the characteristics of Latin American literary production from its origins to the eighteenth century: their periods, current aesthetic and particular manifestations most relevant. Analyze the canonical texts of the colony from different theoretical perspectives.
SPANISH LITERATURE OF THE GOLDEN AGE I	**LI 281**	Identify topics, genres and poetics of the Spanish Renaissance and apply basic knowledge to analyze any philological study of a text of the period.
SECOND LANGUAGE II	**ID**	

AMERICAN LITERATURE	**LI 256**	Analyze the works of American literature. Compare and contrast the different eras, trends and tendencies shared between this literature and Europe and Latin America.
LITERARY MODELS: ESSAY	**LI 255**	Analyze essays from Montaigne to today. Identify and illustrate contributions of Hispanic and Mexican essay writers.
CARIBBEAN LITERATURE	**LI 257**	Describe the currents and the major figures of Caribbean literatures not spoken in Spanish. Compare the cultural production of the Caribbean with Hispanic America of the time.
HISPANIC AMERICAN LITERATURE OF THE 19TH CENTURY	**LI 274**	Carefully analyze the literature on American emancipation -with special attention to the nineteenth-century essay- to evaluate the founding of the canon and the first historiography.
SPANISH LITERATURE OF THE GOLDEN AGE II	**LI 282**	Identify topics, genres and poetics of the Spanish Baroque and apply basic knowledge to analyze any philological study of a text of the period.
SECOND LANGUAGE III	**ID**	
LITERARY CREATION SEMINAE: NOVEL AND STORY	**LI 321**	Develop narrative writing skills. Analyze useful models of literary tradition. Justify the exercise of criticism and self-criticism of texts through studio work.
MEXICAN LITERATURE OF THE 19TH CENTURY	**LI 361**	Analyze a wide range of literary texts written between 1810 and 1910. Identify the historical, social and economic problems that define the nineteenth century Mexican. Describe the aesthetic paradigms around which the literature of the period is to define a project intended to literally set the features that characterize Mexican identity. Develop the evolution of the concept of literary autonomy. Produce an essay in literary criticism which can produce an original reflection on the subject.
BRAZILIAN LITERATURE	**LI 375**	Understand the general characteristics of Brazilian literature of the nineteenth and twentieth centuries and compare them with the American literature of the same period.
HISPANIC AMERICA LITERARY CRITICISM AND HISTORY	**LI 343**	Analyze the development and transformation of Latin American literary criticism and historiography in the twentieth century. Approaches to identify those theories to American literature.

SPANISH LITERATURE: (1700-TO DATE)	LI 383	Analyze the most important periods of proposed literary works. Relate works with aesthetic issues that evolved during the eighteenth and nineteenth centuries in Spain.
SECOND LANGUAGE IV	ID	
CRITICISM AND ESSAY WORKSHOP	LI 322	Write various forms of text essays. Apply literary research in the various moments of this exercise: the initial reflection to writing and editing of a scientific article or critical text. Analyze rhetorical and stylistic resources of the trial. Use modern reflections on essay writing and project the reflection towards an epistemological discussion.
MEXICAN LITERATURE OF THE 20TH CENTURY (FIRST HALF)	LI 362	Analyze the most representative works of Mexican literature of the first half of the twentieth century. Analyze works through the social, historical and cultural frameworks that contributed to its genesis. Analyzing the works concerning the main lines of Latin American literature of the same period. Generating a tentative systematization of the corpus read from various possible parameters: generic, generational, formal, etc.
MODERN EUROPEAN LITERATURE	LI 376	Analyze the most outstanding works of modern European literature. Relate works with the landscape of Western literature.
NEW LATIN AMERICAN FICTION	LI 344	Compare and contrast the contributions of the boom generation and call the most current proposals. Interpret works of the boom according to the cultural and political context in which they occurred.
GENERAL STUDIES II	EG	
SECOND LANGUAGE V	ID	
RESEARCH METHODOLOGY	LI 445	Outline and substantiate the various stages involved in a research process. Apply the methodologies and technologies to close current research in the humanities field. Plan, structure and draft a rigorous investigation, clear and sensible function as a real basis for future research.

MEXICAN LITERATURE OF THE 20TH CENTURY (SECOND HALF)	**LI 463**	Analyze the outstanding works of Mexican literature of the second half of the twentieth century. Relate works with broader, contextual domains corresponding to the Latin American literary production (such as the boom, the historical novel, fragmentary writing, etc.) Analyze works independently (in relation to different schools of thought or criticism). jointly interpret the Mexican literature of the twentieth century.
HISPANIC AMERICAN POETRY OF THE 20TH CENTURY	**LI 446**	Identify and contrast Hispanic American Poetry of the 20th Century: aesthetic currents and canonical works (preferably non-Mexican). Analyze some representative works in depth.
GENERAL STUDIES III	**EG**	
SOCIAL RESPONSIBILITY	**RS 498**	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
GRADUATION PROJECT I	**LI 498**	Develop a research topic. Argue about its feasibility to make a formal proposal to the Department and obtain approval. This will be the base of the research project.
LITERARY CREATION SEMINAR: POETRY	**LI 427**	Outline and describe a series of minimum methodological elements for the analysis, interpretation and review of poems. Develop skills to produce quality poetic texts. Generate a self-deprecating sense allowing evaluate strengths and detect errors in creation.
GENERAL STUDIES IV	**EG**	
GENERAL STUDIES V	**EG**	
GRADUATION PROJECT II	**LI 499**	Develop a research based on a structure. Demonstrate the hypotheses raised in the thesis project.
SEMINARS		

LITERARY HERMENEUTICS AND POETIC TEXTS SEMINAR	**LI 492**	Describe the principles of literary theory from a phenomenological and hermeneutical perspective. Organize a clearer perspective of specific grounds of speculation about the literary text as well as production processes and literary reception. Analyze and evaluate the theoretical and methodological positions studied. Illustrate the characteristics of specificity of the poetic object (and the constitution of the literary-poetic discourse).
SPANISH CONTEMPORARY LITERATURE SEMINAR: A CULTURAL STUDY APPROACH TO FICTION AND THEATER FROM 1950 TO 1990	**LI 495**	Analyze a specific topic of contemporary Spanish literature in depth, from reading the work of an author or a group of works with thematic affinity. Identify specific features of the cultural production of the period.
SEMINAR: HISTORY AND THEORY OF POEMS IN PROSE	**LI 390**	Analyze the theoretical notions about gender and rethought from a historical-discursive perspective. Select a series of theoretical concepts that enable the analysis of specific texts. Define an overview of the origin of the prose poem in Latin America.
SEMINAR: NEW LATIN AMERICAN FICTION	**LI 494**	Analyze and interpret Latin American narrative, from the new Latin American narrative to this day. Describe the social and political context of the period.
SEMINAR: HISPANIC AMERICAN FANTASTIC LITERATURE	**LI 477**	Point out the problematic relations between the fantastic, wonderful, strange, absurd and magical realism, and theoretical considerations help him better understand the Hispanic fantastic narrative and to investigate the issue.
SEMINAR: LA CELESTINA AND ITS TIMES	**LI 391**	Analyze basics of La Celestina. Generate and outline the essential theoretical and methodological elements for study.
PHILOSOPHY ELECTIVES		
GREEK AND MEDIEVAL PHILOSOPHY	**FI 180**	From a historiographical perspective describe the thinking of leading Greek and medieval philosophers. Establish the origin of some of the specific and recurring problems in Western thought. Develop an overview and integrating different philosophical issues in the general corpus of the work of the first thinkers, so appreciate how intermesh problems of epistemology, ethics, aesthetics or theology.

MODERN PHILOSOPHY	**FI 233**	Categorize, from a historiographical perspective, the thought of major modern philosophers, as well as the first approaches to the hypothetical-deductive model of science in the planes of astronomy and physics. Synthesise some of the concrete and recurring problems of Western thought, especially those related to the theory of knowledge, priority concern of modern philosophy.
SCIENCE PHILOSOPHY	**FI 317**	Establish a synoptic view of the traditional problems and recent developments in the philosophy of science. Discuss issues of natural science and social science, and after considering the experimental results and/or obtained by theoretical research communities within scientific disciplines, philosophical views assess the objectives, methods and achievements of these disciplines.
CONTEMPORARY PHILOSOPHY	**FI 334**	Analyze from a historiographical perspective thinking of the leading contemporary philosophers, from Hegel and post-Kantian hermeneutics and linguistic turn. Also, identify some of the specific and recurring problems in Western thought of the twentieth century, especially those related to historicizing knowledge, interpretation and language.
CURRENT THINKING TOPICS	**FI 345**	Evaluate contemporary issues from academia that are redefining the contents of disciplines such as philosophy, anthropology and sociology. Analyze readings grouped into themes such as "cultural studies", "globalization", "postcolonialism" or "Latin American thought." Criticism and proposals synthesise the most representative texts on these issues, going to the baggage accumulated during their studies, to be positioned argumentadamente about them.

ART PHILOSOPHY	FI 423	Distinguish between Philosophy of Art and Aesthetics as areas of philosophical reflection that mark different problems: philosophy of art as philosophical problem unlike the science of aesthetics or beauty. Compare a selection of some of the main theories on the conception of art, from Plato to contemporary. Carefully analyze the peculiarities and special problems generated around the definition of art throughout the twentieth century.
ART HISTORY ELECTIVES		
PRE-HISPANIC ART IN NORTHERN MEXICO	HA 107	Identify, relate and contrast the different cultures that developed in northern Mexico to equal his artistic production with those of other Mesoamerican cultural areas. Characterize the artistic production of the cultures that settled in the northern Mesoamerica and in extratropical regions.
PRE-HISPANIC ART IN CENTRAL MEXICO	HA 117	Identify the cultures that developed in central Mexico. Relate and compare them with other cultures Mesoamerican cultural areas. Likewise, characterizing the artistic production of the cultures that settled in central Mexico.
PRE-HISPANIC ART IN SOUTHERN MEXICO	HA 207	Identify the cultures that developed in southern Mexico, including Guatemala, Belize and Honduras. Characterize the artistic production of the cultures that settled in southern Mesoamerica and relate and contrast these cultures with those of other Mesoamerican cultural areas.
NEW SPAIN ART IN THE 16TH CENTURY	HA 217	Analyze the first stage of construction of New Spain art, driven primarily by the Franciscans, Dominicans and Agustina mendicant orders, primarily in its forms of architecture, sculpture and mural painting. Distinguish and analyze the specifics of what R. Ricard called spiritual moment in his conquest and colonization and its direct and indirect consequences on the conception and development of the arts.
NEW SPAIN ART IN THE 17TH AND 18TH CENTURIES	HA 307	Discern and define the second stage of development of the New Spain art produced mainly in urban workshops and under guidelines of the secular clergy and analyze the particularities of this art in the seventeenth and eighteenth centuries mainly in terms of how architecture and architecture altarpieces, sculpture and relief and easel painting. Identify the characteristics of the

		beginning of the emergence of a Mexican nationalist consciousness and its direct impact on artistic production.
ART SOCIOLOGY	**HA 308**	Master the main features of discourses and methodologies of the sociology of art, between different approaches to the restructuring of the theory of art developed in the 2nd half of the twentieth century.
MEXICAN ART OF THE 19TH CENTURY	**HA 317**	Discern and define the main characteristics of Mexican art of the nineteenth century proposals which contrasted radically the capital work of academic cutting production workshops and academies province and analyze their specificities primarily in terms of how architecture and architecture altarpieces, sculpture, painting, graphics and photography. Also, identify the specifics of the problem of national art under the government of Porfirio Diaz and its consequences in Mexican artistic production.
ART CRITICISM	**HA 318**	Understand the critical history of art from the eighteenth century to today. Mastering the various theoretical foundations from which to build art criticism to achieve critical and assess in detail some of the contributions of contemporary art criticism.
MEXICAN ART OF THE FIRST HALF OF THE 20TH CENTURY	**HA 407**	Discern and define the main characteristics of Mexican art of the 1st half of the twentieth century whose proposals are inscribed in dominant fashion, at first, in finding and defining a nationalist art. Similarly, understand and analyze the characteristics of the Mexican entrance to modern plastic, mainly in its forms of sculpture, easel painting, graphics and photography.
MEXICAN ART OF THE SECOND HALF OF THE 20TH CENTURY	**HA 417**	Discern and define the main characteristics of Mexican art of the 2nd half of the twentieth century proposals which are inscribed in dominant fashion, at first, in a radical opposition to the plastic values and iconographic promoted by the nationalist school, particularly in its modalities sculpture, easel painting, printmaking and new genres.
CURRENT ART THEORY	**HA 418**	Develop a comprehensive overview of the debate Modernity-Postmodernity as the focus of discussion in which entrench the development of artistic practices throughout the twentieth century and especially in contemporary times. Assess satisfactory understanding of the different approaches and controversies that make up the debate in question and the ability to use their terms critically and supported.
HUMANITIES ELECTIVES		
EPISTEMOLOGICAL MODELS	**HU 180**	Develop a (not strictly chronological or author) conceptual approach to the problems paired with the processes of knowledge construction. In addition, categorizing the different epistemological strategies according to three characteristic patterns: realistic, idealistic and pragmatic. REVIEW texts highlights of the Theory of Western knowledge.
RESEARCH AND CULTURAL CRITICISM	**HU 290**	Analyze cultural products and put together a review that serves to elucidate and present publicly. Also, develop practical mechanisms to detect points of interest in cultural productions

		(such as film, literature or art); identify resources database and publications where you can compare them and nurture critical argument.

LICENCIATURA IN MATHEMATICS

INTRODUCTION TO MATHEMATICAL THINKING	**MO 110**	Demonstrate the use the methods of logical reasoning in Problem Analysis and Solution. It is necessary to approach problems of mathematics as a geometric system and to operate the algebra of propositions and the algebra of sets in the solution of mathematical problems typical of their professional practice. It is important to properly handle the concepts of group, ring and field, master the conceptual and operational management of relationships and functions and at the same time address mathematical problems considering the axiom of the supreme in real numbers.
ANALYTIC GEOMETRY	**MT 118**	Calculate lengths and angles using vectors, equations of conic sections. Change and coordinate transform equations using translation and rotation shafts. Interpret and obtain equations of lines, planes and spheres using vectors and calculating equations of curves and surfaces of revolution.
FUNDAMENTALS OF EXPERIMENTAL PHYSICS	**FS 100**	Apply and practice the experimental method of physics optical phenomena. Report the results of measurements on a given physical model in a professional manner.
GENERAL STUDIES I	**EG**	
LANGUAGE AND THOUGHT	**PC 114**	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	**ID**	
CALCULUS I	**MT 115**	Use the method of mathematical induction to prove properties and identities involving natural numbers. Use inequalities to analyze the behavior of functions. Calculate limits of functions and sequences by using and understanding the concept of limit. Apply the derivative as an instrument in the formulation and solution of problems. Sketch graphs of functions using the concepts of limits, monotony, extremes, and concavity. Manage the concept of approximation of functions and of order of magnitude. Select algorithms and implement them on the computer to visualize and calculate functions, limits, and derivatives.

EQUATION THEORIES	MT 129	Operate polynomials and their properties and use different techniques to compute roots of polynomials with complex coefficients and real. Use algorithms to get all the roots of polynomials of third and fourth degree with real coefficients.
ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
CALCULUS II	MT 210	Calculate integrals and approximations of comprehensive and apply to the calculation of areas and volumes. Using trigonometric functions, exponential function and logarithm for troubleshooting. Identify whether a sequence of functions converges point or uniformly. Calculate the Taylor polynomial of a function and estimating its residue. Get the Taylor series of a function and calculate its radius of convergence.
LINEAR ALGEBRA	MT 219	Recognize the concepts of vector space, linear transformation matrix determinant, eigenvalue and similarity transformation. Using these concepts and the properties of each element defined by them to describe matrices using linear transformations and base changes. Operate the determinants of square matrices, and cofactors those elements, to calculate the same. Get the eigenvalues and eigenvectors of square matrices. Basing and operate linear functional concepts, and quadratic bilinear form, orthogonal and unitary transformation. Using these concepts and the properties of each element defined by them to determine the normal forms of matrices. Apply the tools of linear algebra to various problems of geometry, linear programming and differential equations.
MECHANICS	FS 220	Identify the fundamental concepts of classical mechanics, such as statics, linear and angular dynamics, work, energy, power, momentum, momentum and balance. Solve exercises related to these concepts and translate them into mathematical language to compare them with everyday situations.
EXPERIMENTAL MECHANICS	FS 200	Explain and apply various concepts of Experimental Mechanics such as momentum or momentum and kinetic and potential

		energy torca energy and conservation of angular momentum or angular movement. Similarly conduct pilot exercises to determine: momentum with uniform velocity by measurement, and distinguish the difference between mass and weight and identify the frictional force.
SECOND LANGUAGE III	**ID**	
CALCULUS III	**MT 211**	Distinguish whether a subset of Rn is open, closed, bounded, compact or connected. Mayorar, minorar and approximate functions of several variables and apply these concepts to calculate limits of functions in Rn. Identify whether a function of several variables is bounded, continuous, uniformly continuous and if it reaches its extreme values. Obtaining sets level multivariable functions and in the case of two variables, use to outline graphs of the corresponding functions. Outline graphic and sets level and approximate extreme values using a computer. Obtain and interpret the best linear approximation of a function of several variables. Computing derivatives using chain rule. Approximate functions with polynomials Taylor and estimate their waste. Solving optimization problems using computational techniques in several variables. Use theorems inverse function and implicit function to decide whether a system of nonlinear equations is solvable.
ORDINARY DIFFERENTIAL EQUATIONS	**MT 261**	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
MODERN ALGEBRA I	**MT 316**	Identify particular groups as algebraic structures and manage their properties. Handle the concepts and demonstrate the theorems of Lagrange, of homomorphisms, Cauchy and Sylow. Describe the symmetric groups and their decomposition in cycles. Using the theory of permutations in the symmetric groups.
AXIOMATIC SET THEORY	**MT 220**	Solve problems in the joint theory involving the axioms of set theory, relations and functions, the construction of the real numbers, the principle of induction finite and transfinite induction and the axiom of choice.

NUMBER THEORY	MT 212	Interpret the concepts with which the student is already familiar in terms of the theory of numbers. Master the techniques developed in the course, studying classical theorems on the distribution of prime numbers. Formulate and solve real problems using the theorems of Euler, Fermat and Wilson.
CALCULUS IV	MT 310	Calculate line integrals, multiple integrals and surface integrals. Apply Theorem change variables for multiple integrals and sketch their demonstration. Apply Stokes theorems of Green and Gauss divergence for both comprehensive assessment as to demonstrate theoretical results of the theory of integration. Outline the proofs of theorems of Stokes, Green, and Gauss divergence at the least in individual cases.
PARTIAL DIFFERENTIAL EQUATIONS	MT 361	Develop the basic theory of differential equations in several variables. Identifying differential partial differential equations of first and second order. Using different methods of solving these equations. Apply the methods of solution to the equations of heat transmission, wave and Laplace
MODERN ALGEBRA II	MT 317	Identify the rings as particular algebraic structures and manage their properties. Describe the structure of the modules. Develop the relationship between a field and its finite extensions. Constructability and interpret solutions to two problems of ancient Greece: "You can duplicate a cube using only ruler and compass" and "may be an arbitrary angle trisection using only ruler and compass."
PROBABILITY	MO 330	Use the basic principles of counting, and distinguish between arrangements of objects by permuting, ordering and combining them. Define the concepts of sample space, events, the algebra of events, random experiment, probability theorems, probability calculus, Bayes theorem, and concepts of independence between events. Master the notion of one-dimensional random variable, both discrete and continuous. Use the probability distributions corresponding to the discrete and continuous random variables and their characteristics and solve probabilistic problems. Use distributions and distribution density functions to calculate the expectation of a random variable. Handle the limit theorems and apply them to analyze the convergence of the average of a sequence of random variables to the average expectation.
GENERAL STUDIES II	EG	

MATHEMATICAL ANALYSIS I	**MT 311**	Handle the similarities and differences between open set and continuous function on the one hand, and measurable set measurable function and the other, for real variable functions. Manage and use the concepts of measurable set, measure, measurable functions. Understanding why the need arises to replace the Riemann integral type by a more general and flexible integrated more suitable for dealing with process step the limit. In particular, the role played in the above consideration of broader classes of sets and functions, namely measurable sets and measurable functions. Calculate and use the Lebesgue integral to solve problems. Working with the differentiation of an integral and master the concept of absolute continuity. Knowing the Lp spaces in its general formulation and solve problems and approach convergence in these spaces.
COMPLEX VARIABLES	**MT 415**	Identify complex variable functions presented in the elementary grades and formalize the relevant notions. Manage analytic functions as a generalization of the functions studied so far. Use integration techniques in the complex plane to calculate real integrals. And solve problems on the topics of the course.
DIFFERENTIAL GEOMETRY	**MT 318**	Define the local properties of curves and surfaces. Manipulating and calculate the different curvatures defining a surface. Play and prove the theorem of Gauss Egregio.
SCIENTIFIC CALCULATION	**MT 330**	Solve linear algebra, ordinary differential equations, polynomials, interpolation, and manage Fourier analysis and maximum and minimum unrestricted. Manage scientific software such as Mathematica or MATLAB.
GENERAL STUDIES III		
NUMERICAL ANALYSIS I	**MT 423**	Identify the different numerical methods are studied. Using the methods studied for computational solution of problems related to the topics studied.

NUMERICAL ANALYSIS II	MT 410	Describe metrics or topological properties of a general space in which defined the notion of distance. Specify that in normed spaces linear topology is introduced by a metric, if each vector has a space "length" and the rules under which it operates with these lengths correspond to some geometric principles. Describe the importance of normed linear spaces in which the norm is defined by a function of two vectors, i.e., domestic product. Exemplifying linear problems by handling operators and linear functional. Develop topological vector spaces and basic properties of convex sets.
TOPOLOGY	MT 428	Describe topological spaces by functions. Identify topological spaces using the connectedness and compactness. Construct new topological spaces using the sum, product and quotient spaces.
OPERATIONS RESEARCH I: MATHEMATICAL MODELING	MO 420	Describe the principles of modeling and solving real-world problems. Implement the main algorithms for solving transport problems. Improve and/or optimize solutions corresponding starting materials. Manage dynamic programming models. Modeling problems queues using probability distributions. Explain the principles of simulation, random number generation and use different distributions.
DYNAMIC SYSTEMS	MT 460	Master the concepts of the theory of differentiable manifolds, crosscutting and structural stability. Describe local stability, singularities, hyperbolic fixed points and Morse-Smale fields. Apply the theorem Kupka - Smale. Solve elementary theoretical and experimental problems on the content of the course. Solve the dynamical systems theory using the above techniques.
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
STATISTICAL METHODS	AT 473	Master the methods to propose and test hypotheses with optimal properties for solving statistical problems of real life. You'll get a theoretical knowledge and can apply the tests of parametric and nonparametric hypothesis.
GENERAL STUDIESIV	EG	Develop a project and demonstrate its capacity.
GRADUATION PROJECT I	MT 400	Handle the basics of stochastic processes and their properties and apply to financial models. Explain the problem of options as the main motivation in building financial models. Using stochastic processes to model and solve financial problems.
STOCHASTIC PROCESSES AND FINANCE	MT 420	Master the methods to propose and test hypotheses with optimal properties for solving statistical problems of real life. You'll get a theoretical knowledge and can apply the tests of parametric and nonparametric hypothesis.

GENERAL STUDIESIV (Co-curriculares)	EG	
MATH ELECTIVES		
MATH AND ECONOMICS COMPUTER SIMULATION	MT 331	Solve algebraic problems and mathematical calculation using the package, display solutions on the computer. Cellular robots create and study their evolution. Illustrate economic phenomena on the computer, including the dynamics of Cournot. Solve the variational calculus. Simulating random walks and fractal time series.
GEOMETRY	MT 218	Identify and distinguish analytically intuitive and geometries: Euclidean, spherical, projective and hyperbolic. Analytically and intuitively interpret the concepts of point, line, distance and angle in each of the geometries of the preceding paragraph. Analytically and interpret intuitively in each of the geometries of paragraph one, the concepts of consistency, concurrency, collinearity, parallelism, squareness. Identify the transformations according Kline determine each of the geometries of the subsection a. Solve trigonometry in each of the geometries, Euclidean, spherical, hyperbolic. Using Desargues theorem of projective geometry to solve construction rule. Appreciate geometric facts in the real world (eg, engineering and art) and express them in the appropriate geometry.
INTRODUCTION TO THE HISTORY OF MODERN MATHEMATICS	MT 300	Analyze the main ideas that gave rise to modern mathematics. Recognize the contributions of formalism and mathematical rigor. Analyze the impact of non-Euclidean geometry in mathematics and science. Study, analyze and discuss the impact and influence of mathematical knowledge in culture and education.
GEOMETRIC ALGEBRA AND ITS APPLICATIONS	MT 320	Manage geometric algebras of Euclidean spaces 2, 3 and more dimensions. Describe geometric algebras of Minkowskianos spaces. Develop geometric algebras of affine and projective spaces. Identify the main applications in physics.
STOCHASTIC CALCULUS	MT 450	Stochastic processes define and understand the properties of Brownian motion. Develop the necessary concepts and apparatus for using stochastic calculus. Describe the properties of the integral of Ito. Discuss generalizations of the integral of Ito and its differences with the latter. Generally achieved by theory, examples and exercises that students will be able to resolve questions and problems on stochastic calculus, and study some applications Finance and Stochastic Control.

FUNCITONAL ANALYSIS	**MT 491**	Explain that Hilbert spaces have structural properties that generalize a lot of geometric vision that the student has the Euclidean spaces and that these structural properties lead to results analítios applicable to fundamental problems. Making the overall construction of dual spaces and study the Hahn Banach theorem. Discover the importance of the study of linear operators and attachments to focus a lot of problems in vector spaces and how the theory of operators simplifies the analysis of problems eliminating the need for complicated explicit formulas. Handle the spectral theory of linear operators.
TOPICS IN ALGEBRA AND THE THEORY OF REPRESENTATIONS	**MT 497**	Handle advanced topics are studied and studied the methods used for troubleshooting. Topical develop advanced algebra and representation theory. Explore the mathematical literature. Develop their math skills.
CHAOTIC DYNAMIC SYSTEMS	**MO 461**	Analyze the dynamics of one-dimensional mappings. Sharkovski prove theorem and use it to analyze the emergence of the bifurcation. Define and characterize chaos using symbolic dynamics, the sensitive dependence and conjugation. Analyze the stability of two-dimensional mapping. Smale horseshoe study and Hopf bifurcation. Introduce students to the generation of fractals, using symbolic dynamic and iterative systems affine transformations. Apply dynamic systems models of epidemics, among others.
CONVEX ANALYSIS	**MO 220**	Solve linear and nonlinear programming problems starting from knowing all the concepts and the necessary apparatus of the topology of convex sets in a finite space. Distinguish the properties of convex functions in an n-dimensional Euclidean space. Generalize the concepts of convexity of both sets and functions. In general, to achieve through theory, examples and exercises that the student is capable of solving questions and problems about convex analysis, as well as being prepared for the other courses of the specialty in Optimization.
NUMERICAL ANALYSIS II	**MO 430**	Identify the different numerical methods studied, using the methods studied for computational solution of problems related to the topics studied.
OPERATIONS RESEARCH ELECTIVES		
LINEAR PROGRAMMING	**MO 320**	Describe the great practical use of linear programming by suitable selection of applications, using strategies to develop such models. Apply the interdependence between systems theory inequations, the duality theory and geometry of polyhedra. Calculate the impact on the value of a given program linear small variations in the data. Manage different versions of the simplex method. Use interior primal-dual methods. Answer

		questions about the behavior of algorithms and problem solving to help small computer.
NON-LINEAR PROGRAMMING	**MO 321**	Describe nonlinear programming problems. Master solution methods. Apply the necessary and sufficient conditions of optimality to determine global and local solutions. Define the principles of duality, of the Lagrange function and qualification restrictions. Solving problems and convex quadratic using the methods presented. Identify and apply different methods of nonlinear programming: gradient method, method of feasible directions, barrier method, penalty method, accurate method penalty and methods of the SQP type.
INTRODUCTION TO ALGORITHMS	**MO 210**	Solve problems by building algorithms. Use different mathematical resources to help you understand the algorithmic complexity of solving the problem and provide mathematical certainty that the algorithm is correct.
MATHEMATICAL LOGIC	**MO 311**	Identify the concept from a general point of view but mathematical. Use the universal algebra as mathematical support for logical define different. Illustrate classical logic as the prime example and build other logic. Computer modeling various applications with particular attention to the modeling of intelligent agents.
DISCRETE OPTIMIZATION	**MO 422**	Develop skills to formulate problems and combinatorial entire programming. They identify different techniques for solving problems. Apply the techniques studied for solving discrete optimization problems.
RESEARCH OPERATIONS II: HEURISTIC METHODS	**MO 454**	Study the characteristics of the different heuristic approaches. Develop the ability to design and implement algorithmic proposals that studied the methodologies used in the course.
COMPLEXITY OF ALGORITHMS	**MO 410**	Identify the complexity of a problem (from a computational point of view) by mathematical techniques. Providing computer solutions to various problems.
NUMERICAL METHODS IN OPTIMIZATION	**MO 421**	Explain the theory of convergence algorithms seeing a set point applications. Discuss the speed of convergence of algorithms and provide criteria used to evaluate the algorithms. Using numerical techniques optimal point search function along one-dimensional direction in the n-dimensional Euclidean space. Identify the advantages and disadvantages of unconstrained optimization methods using only first-order derivatives or also second order. Discuss methods of constrained optimization most used in practice as well as the historical background

		necessary other methods that led to the current state. Achieved through examples and exercises that students will be able to resolve questions about the behavior of algorithms and problem solving to help small computer.
PARAMETRIC OPTIMIZATION	**MO 453**	Manipulate the dependence of linear and nonlinear programming models on the initial data. Determine for which optimization models the intuitively reasonable assumption that the precision of the solutions increases with the degree of approximation of the initial data is justified. Determine if an exact solution of a fixed problem can be considered as an approximation to the solutions of the problems that are obtained by introducing small approximations to the basic data (demand, prices, resources, technical parameters, etc.). If any of the two previous questions has an affirmative answer, knowing how to estimate the degree to which the variations in the initial data influence the behavior of the solutions. Handle the stability properties of the feasible set application, the optimal value function and the optimal set application. Manipulate solution procedures for some classes of parametric optimization problems.

LICENCIATURA IN MATHEMATICS AND ECONOMICS

INTRODUCTION TO MATHEMATICAL THINKING	**MO 110**	Use the methods of logical reasoning in the Analysis and solution of problems. Approach problems of mathematics as a geometric system and efficiently operate the algebra of propositions and the algebra of sets in the solution of mathematical problems typical of their professional practice. Adequately handle the concepts of group, ring and field, master the conceptual and operational management of relationships and functions and at the same time address mathematical problems considering the axiom of the supreme in real numbers.
ANALYTIC GEOMETRY	**MT 118**	Calculate lengths and angles using vectors, equations of conic sections. Change and coordinate transform equations using translation and rotation shafts. Interpret and obtain equations of lines, planes and spheres using vectors and calculating equations of curves and surfaces of revolution.
PRINCIPLES OF ECONOMICS	**EC 105**	Develop the basic elements of economic analysis emphasizing its application to understanding contemporary economic phenomena.
GENERAL STUDIES I	**EG**	
THOUGHT AND LANGUAGE	**PC 114**	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity,

		certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	**ID**	
CALCULUS I	**MT 115**	Use the method of mathematical induction to prove properties and identities involving natural numbers. Use inequalities to analyze the behavior of functions. Calculate limits of functions and sequences through the use and understanding of the concept of limits. Apply the derivative as an instrument in the planning and problem solving. Sketching the graphs of functions using the concepts of limits, monotony, extreme and concavity. Handle the concept of function approximation and order of magnitude. Select and deploy algorithms and computer to visualize and evaluate functions, limits and derivatives.
EQUATION THEORY	**MT 129**	Operate polynomials and their properties and use different techniques to compute roots of polynomials with complex coefficients and real. Use algorithms to get all the roots of polynomials of third and fourth degree with real coefficients.
ALGORITHMIC SOLUTIONS	**IS 112**	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	**IS 116**	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java
MACROECONOMICS I	**EC 107**	Identify the main issues and macroeconomic phenomena and develop the ability to analyze theoretically (with analytical and graphical techniques) and empirically (by analyzing basic data) critically.
PROFESSIONAL WRITING.	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	**ID**	
CALCULUS II	**MT 210**	Calculate integrals and approximations and apply to the calculation of areas and volumes. Use trigonometric functions, exponential function and logarithm for troubleshooting. Identify whether a sequence of functions converges point or uniformly. Calculate the Taylor polynomial of a function and estimating its residue. Get the Taylor series of a function and calculate its radius of convergence.

LINEAR ALGEBRA	MT 219	Recognize the concepts of vector space, linear transformation matrix determinant, eigenvalue and similarity transformation. Using these concepts and the properties of each element defined by them to describe matrices using linear transformations and base changes. Operate the determinants of square matrices, and cofactors those elements, to calculate the same. Get the eigenvalues and eigenvectors of square matrices. Basing and operate linear functional concepts, and quadratic bilinear form, orthogonal and unitary transformation. Using these concepts and the properties of each element defined by them to determine the normal forms of matrices. Apply the tools of linear algebra to various problems of geometry, linear programming and differential equations.
MICROECONOMICS I	EC 106	Analyze economic modeling techniques markets through graphical analysis and demonstrate the implications of different market structures for economic efficiency as well as policies that could potentially correct the distortions. Develop economic intuition to understand the functioning of markets because of individual decisions of consumers and businesses and solve problems of microeconomics from a geometrical point of view.
GENERAL STUDIES II	EG	
SECOND LANGUAGE III	ID	
CALCULUS III	MT 211	Distinguish whether a subset of Rn is open, closed, bounded, compact or connected. Mayorar, minorar and approximate functions of several variables and apply these concepts to calculate limits of functions in Rn. Identify whether a function of several variables is bounded, continuous, uniformly continuous and if it reaches its extreme values. Obtain sets level multivariable functions and in the case of two variables, use to outline graphs of the corresponding functions. Outline graphic and sets level and approximate extreme values using a computer. Obtain and interpret the best linear approximation of a function of several variables. Computing derivatives using chain rule. Approximate functions with polynomials Taylor and estimate their waste. Solving optimization problems using computational techniques in several variables. Use theorems inverse function and implicit function to decide whether a system of nonlinear equations is solvable.
ORDINARY DIFFERENTIAL EQUATIONS	MT 261	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations

MODERN ALGEBRA I	MT 316	Identify particular groups as algebraic structures and manage their properties. Handle the concepts and demonstrate the theorems of Lagrange, of homomorphisms, Cauchy and Sylow. Describe the symmetric groups and their decomposition in cycles. Using the theory of permutations in the symmetric groups.
MICROECONOMICS II	EC 206	Present and develop the elements related to the analysis of production decisions by a company in a competitive environment. Familiarize the student with the different production functions. Present the obtaining of the cost functions relative to the different production functions. Address the differences between short-term and long-term production decisions. Present a first approach to solving production problems by a company in situations of uncertainty.
MACROECONOMICS II	EC 205	Develop the Theoretical Analysis skills obtained by students in Macroeconomics I to more realistic and therefore more complicated situations, such as those that arise when we consider the open economy or incorporate the expectations of economic agents in the Analysis. Interpret and apply other perspectives of the theory by studying the most important criticisms that have been made of it in recent times.
GENERAL PROBABILITY	AE 250	Master the basics of descriptive statistics and probability. Scan graphically and numerically the distribution of a set of quantitative data. Use different discrete and continuous models for calculating probabilities of real life phenomena. Know the role and importance of statistical inference.
CALCULUS IV	MT 310	Calculat line integrals, multiple integrals and surface integrals. Apply Theorem change variables for multiple integrals and outline their show and apply Stokes theorems of Green and Gauss divergence for both comprehensive assessment as to demonstrate theoretical results of the theory of integration. Outline the proofs of theorems of Stokes, Green, and Gauss divergence at the least in individual cases.
MODERN ALGEBRA II	MT 317	Identify the rings as particular algebraic structures and manage their properties. Describe the structure of the modules. Develop the relationship between a field and its finite extensions. Interpret the constructability and solutions to two ancient Greek problems: "A cube can be duplicated using only a ruler and compass", and "An arbitrary angle can be trisected using only a ruler and compass".
PARTIAL DERIVATIVE EQUATIONS	MT 361	Develop the basic theory of differential equations in several variables. Identifying differential partial differential equations of first and second order. Use different methods of solving these equations. Apply the methods of solution to the equations of heat transmission, wave and Laplace.
INTERNATIONAL COMMERCE	EC 324	Apply theoretical concepts through its application to the analysis of the most important recent developments in the international economy.

GENERAL STATISTICS	AE 300	Apply different statistical methods to make inferences about the unknown population parameters through suitable point estimators (indicating the error limit for the estimation) or through confidence intervals for large and small samples. Calculate the appropriate sample size to have good estimates. You perform hypothesis tests for any of the following population parameters: mean and mean difference, proportion, difference of proportions and variance. Calculate and interpret the significance level achieved by a test (p value). Applying the analysis of variance (ANOVA) to completely aleatoriezazos designs. Apply Chi-square test for contingency tables and perform different tests of hypotheses for qualitative data analysis.
MATHEMATICAL ANALYSIS I	MT 311	Handle the similarities and differences between open set and continuous function on the one hand, and measurable set measurable function and the other, for real variable functions. Manage and use the concepts of measurable set, measure, measurable functions. Understand why the need arises to replace the Riemann integral type by a more general and flexible integrated more suitable for dealing with process step the limit. In particular, the role played in the above consideration of broader classes of sets and functions, namely measurable sets and measurable functions. Calculate and use the Lebesgue integral to solve problems. Working with the differentiation of an integral and master the concept of absolute continuity. Knowing the Lp spaces in its general formulation and solve problems and approach convergence in these spaces.
MATH AND ECONOMICS COMPUTER SIMULATION	MT 331	Solve algebraic problems and calculation using the Mathematica package. Display solutions on the computer. Cellular robots create and study their evolution. Illustrate economic phenomena on the computer, including the dynamics of Cournot. Solve the variational calculus. Simulating random walks and fractal time series.
SCIENTIFIC CALCULUS	MT 330	Use scientific software such as MATHEMATICA or MATLAB. Calculate solutions to problems in Linear Algebra, Ordinary Differential Equations, polynomials, interpolation, and handle Fourier Analysis and maximums and minimums without restrictions.
ECONOMETRICS I	EC 311	Apply the tools of exploratory data analysis, applying probabilistic basis of statistics. Develop and test probability theory, its properties and laws as well as the various probability distributions and statistical tables. Mastering techniques mínimocuadráticas regression, both univariate and multivariate and the properties of these estimators.
ECONOMIC DEVELOPMENT	EC 475	Illustrate advanced theoretical debate on economic development. Organize the broad and in-depth theoretical framework based on the relevant literature and current information about the problem. Understand various economic theories that explain the development factors acting in a socio-economic structure in developing economies and explain the dynamic factors of domestic

		development. Understand the role of the institutional framework and social capital in the development process.
GENERAL STUDIES III	**EG**	
MATHEMATICAL ANALYSIS II	**MT 410**	Describe metrics or topological properties of a general space in which defined the notion of distance. Specifying that in normed spaces linear topology is introduced by a metric, if each vector has a space "length" and the rules under which it operates with these lengths correspond to some geometric principles. Describe the importance of normed linear spaces in which the norm is defined by a function of two vectors, i.e., domestic product. Exemplify linear problems by handling operators and linear functional. Develop topological vector spaces and basic properties of convex sets.
DYNAMIC SYSTEMS	**MT 460**	Develop the concepts of the theory of differentiable manifolds, crosscutting and structural stability. Describe local stability, singularities, hyperbolic fixed points and Morse-Smale fields. Apply the theorem Kupka - Smale. Solve elementary theoretical and experimental problems on the content of the course. Solve the dynamical systems theory using the above techniques.
STOCHASTIC PROCESSES AND FINANCE	**MT 420**	Handle the basics of stochastic processes and their properties as well as its application to financial models. Explain the problem of options as the main motivation in building financial models and stochastic processes used to model and solve financial problems.
FINANCIAL ECONOMICS	**EC 329**	Examine and analyze the debt markets, the foreign exchange market, the capital market and financial products. Familiarizing students with the terminology, concepts and principles of investment. Understand the theories of financial valuation and optimal valuation techniques. Understand the various types of securities and risk profiles. Understand the basic terms of investment analysis, such as a line of the capital market, CAPM, fundamental analysis, modern portfolio theory, technical analysis, utility, variation and volatility. Understand the theoretical foundations of the theory of random walk and efficient markets hypothesis.

ECONOMETRICS II	**EC 335**	Develop and apply exploratory data analysis tools, applying the probabilistic bases of statistics. Likewise, master the theory of probability, its properties and laws and how the different probability distributions and statistical tables. Employ least-quadratic regression techniques, both univariate and multivariate, and interpret the properties of these estimators.
GENERAL STUDIES IV	**EG**	
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
GAME THEORY	**EC 209**	Master the most important techniques of economic analysis to formulate hypotheses. Develop a very broad view of the various issues covered by this analytical tool, both in its conventional version and evolutionary and experimental versions. Develop deductive skills the student in terms of mathematical rigor.
GENERAL STUDIES V (CO-CURRICULAR)		
GRADUATION PROJECT	**MT 400**	Develop a research project using all theoretical and practical concepts developed by the student. Clarify the results obtained within the project area of economics or mathematics applied to economics.
MACROECONOMICS III	**EC 319**	Master the main models of short-term macroeconomic analysis for the open economy. Analyze interactions between asset market and goods market; emphasize the importance of the degree of international mobility of capital and exchange rate regime. Analyze the real sector of the economy and the mechanisms by which a small economy can simultaneously achieve internal and external balances.
MICROECONOMICS III	**EC 318**	Build an ordinal utility function through formal models of consumer behavior and assumptions necessary. Models dominate demand and consumer spending from constrained optimization. Master the theory of choice under uncertainty. Master the theory of intertemporal choice. Master alternative theories of consumer behavior. Know the theories of bounded rationality and satisfactory levels. Know the criticism of behavioral economics. Know the postmodernist theories of consumption and the theories of the new consumerism. Know the literature of the information economy, models seeking information, moral hazard and adverse selection.
MATH ELECTIVES		

AXIOMATIC SET THEORY	MT 220	Solve problems in the joint theory involving the axioms of set theory, relations and functions, the construction of the real numbers, the principle of induction finite and transfinite induction and the axiom of choice.
TOPOLOGY	MT 428	Describe topological spaces by functions. Identify topological spaces using the connectedness and compactness. Construct new topological spaces using the sum, product and quotient spaces.
CHAOTIC DYNAMIC SYSTEMS	MO 461	Analyze the dynamics of one-dimensional mappings. Sharkovski theorem and use it to analyze the emergence of the bifurcation. Define and characterize chaos using symbolic dynamics, the sensitive dependence and conjugation. Analyze the stability of two-dimensional mapping. Smale horseshoe study and Hopf bifurcation. Introduce students to the generation of fractals, using symbolic dynamic and iterative systems affine transformations. Apply dynamic systems models of epidemics, among others.
INTRODUCTION TO THE HISTORY OF MODERN MATHEMATICS	MT 300	Analyze the main ideas that gave rise to modern mathematics. Recognize the contributions of formalism and mathematical rigor. Analyze the impact of non-Euclidean geometry in mathematics and science. Study, analyze and discuss the impact and influence of mathematical knowledge in culture and education.
ECONOMICS ELECTIVES		
SECTOR ECONOMICS	EC 455	Analyze the processes of price formation and income generation activities and phenomena associated with peculiar (agricultural, regional, environmental, labor, educational, etc.). Interpret the role that activity in the economic development of a society. Evaluate concepts of the activity in question as a branch of economic analysis, both at the micro level and at the macro level and the importance for the preparation of development policies.
ECONOMIC VALUATION	EC 456	Analyze the methodology for evaluating projects to achieve related to the development and profitability objectives. Master the tools to evaluate private and public projects. Distinguish the costs and benefits related to a project and make appropriate methodologies for each case.
WELLNESS ECONOMICS	EC 457	Analyze the epistemological foundations of the criteria being used in the economy and dominate the welfare indicators used. Master the techniques of construction of welfare indicators; check their properties and measurement bias and identify the advantages and disadvantages of the use of welfare indicators for public policy.
MACROECONOMIC POLICIES	EC 466	Analyze some basic models used in the analysis of monetary policy; esquematizar the transmission channels of monetary policy, as well as some important aspects of conducting policies of the central bank. Compare some recent empirical work on monetary policy mainly in Mexico and other countries.
MARKETS AND ORGANIZATIONS	EC 467	Master the basics of corporate governance and organizational architecture. Analyze the relationship between financial system and corporate governance. Compare institutional elements on the various existing organizational arrangements in the world, illustrate

		the debate on the issue of corporate convergence. Interpret and apply the sociological and neoclassical theories to explain family businesses, equity concentration and economic organization through economic groups.

LICENCIATURA IN MEDICAL SURGEON

MEDICAL PHYSIOLOGY	**MD 100**	Master the basics of Medical Physiology and fundamentals of the normal functioning of the body. Also, analyze the functional alterations that occur in the disease, use scientific reasoning and a critical attitude that correlates the knowledge of physiology with proper diagnosis and treatment.
CLINICAL BIOCHEMISTRY	**MD 101**	Understand and master the basic knowledge of biochemistry, scientific reasoning of how chemicals interact, metabolism, biochemical alterations in the normal and abnormal functioning of the body using a critical attitude correlating knowledge of biochemistry with the diagnosis and treatment appropriate.
HUMAN ANATOMY	**MD102**	Understand human anatomy as the foundation to build semiologic knowledge and clinical stage of the training degree, identifying normal anatomical structures from different aspects including imaging.
MEDICAL HISTOLOGY	**MD 104**	Understand and master the basic knowledge of Histology, will locate, identify, understand and make the relationship between the microscopic structures of cells, tissues and organs that make up the various systems of the human body
THOUGHT AND LANGUAGE	**PC 114**	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	**ID I**	
GENERAL STUDIES		
MOLECULAR AND CELLULAR BIOLOGY	**MD 110**	Understand the structure, organization, compartmentalization, complexity, molecular and cellular needed to support vital phenomena at the level of unicellular organisms as the integration of bodies, using scientific reasoning and critical attitude that correlates the knowledge of Cellular and Molecular Biology with proper diagnosis and treatment that allows them to understand the processes of cell regulation and gene expression.
MICROBIOLOGY AND PARASITOLOGY	**MD 112**	Master the basic knowledge of Microbiology and Parasitology, eemplear a scientific, logical, systematic approach to applying the appropriate technology to recover and identify micro-organisms (bacteria, viruses and fungi) of clinical interest in our environment and relate critically, diagnosis and treatment with the type of infection.

PHARMACOLOGY I	MD114	Build pharmacological knowledge of the general principles of drug action and integration of knowledge, using scientific reasoning and critical attitude that correlates knowledge of Pharmacology with appropriate diagnosis and treatment.
PHYSIOLOGY ANATOMY WITH A CLINICAL FOCUS	MD116	Understand and master the basics of morphology and normal functioning of the body. Also, analyze the functional alterations that occur in the disease and to use scientific reasoning with a critical attitude that correlates the knowledge of the anatomy and physiology with a clinical approach to a proper diagnosis and treatment.
HUMAN EMBRYOLOGY	MD 118	Analyze and outline the origin, growth and development of the human being, the cause of the processes involved in normal ontogeny and how they are altered in some cases of medical interest, in the light of the findings and techniques of biology of development.
FUNDAMENTALS OF MEDICAL PRACTICE	MD 120	Understand, develop and master the basics of clinical thinking to the address to the patient, in his initial contact, physical examination, based on reasoning scientific, ethical and critical attitude, correlating their knowledge with the diagnosis, appropriate treatment and prognosis pathologies to which they will face in their daily practice.
GENERAL STUDIES II		
SECOND LANGUAGE II	ID II	
PHARMACOLOGY II	MD130	Apply the general principles of pharmacology at the current therapeutic assessing the choice and determining the use of the drugs according to the system of the body on which act predominantly as well as its main therapeutic indications, drug interactions, contraindications and adverse effects.
INTERNAL MEDICINE I (GASTROENTEROLOGY AND INFECTOLOGY)	MD 131	Develop, understand and master the fundamentals of knowledge of Internal Medicine in Gastroenterology and Infectious Diseases. Also, analyze the functional alterations that occur in disease and use scientific reasoning and a critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
HUMAN GENETICS	MD133	Master the general principles of Human Genetics and distinguish the principles governing the inheritance of characters between generations, as well as the causes of genetic variation in living organisms, the genetic component in human pathology, also, determine its importance in the future of medicine.

NUTRITION AND METABOLISM	MD 135	Recognize the importance of food as suppliers of nutrients as well as the requirement, how they are assimilated by the human body, its physiological and metabolic function; appreciate Clinical Nutrition as a balance in the actions of prevention, diagnosis and treatment of nutritional disorders in different states of health and disease.
GENERAL SURGEY I	MD137	Learn, develop and master the basics of Basic Surgical Education. Also, analyze and integrate the right techniques. Use scientific reasoning and a critical attitude correlating knowledge of surgical diseases with proper diagnosis and treatment.
OBSTETRICS GYNECOLOGY I	MD 140	Learn, develop and master the basic principles of Gynecology and Obstetrics and interpersonal and communication skills that foster better interaction between doctor and patient, using scientific reasoning and critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
SECOND LANGUAGE III	ID III	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
PHARMACOLOGY III	MD 200	Analyze the drug therapy of the patient through an overview of the drug to its proper use in the context of care health, using scientific reasoning and critical attitude that correlates the knowledge of pharmacotherapy with appropriate diagnosis and treatment.
INTERNAL MEDICINE II (HEMATOLOGY AND IMMUNOLOGY)	MD 202	Understand, develop and master the fundamentals of knowledge of Internal Medicine in Hematology and Immunology. Also, analyze the functional alterations that occur in disease and use scientific reasoning and a critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
PEDIATRICS I	MD 211	Understand, develop, and master the fundamentals for the evaluation of the pediatric patient. Likewise, students analyze the functional alterations that occur in pediatric disease and will use scientific reasoning and critical attitude to correlate the knowledge of General Pediatrics at an appropriate diagnosis and treatment.

GENERAL SURGERY II GASTRO SURGERY AND UROLOGY	**MD 213**	Learn, integrate, develop and master the knowledge of the main surgical diseases of the digestive and urological apparatus and to establish the anatomical and pathophysiological correlation warranting surgical treatment, respecting the principles and operative times.
OBSTETRICS GYNECOLOGY II	**MD 215**	Understand, integrate and master the principles of pathology in gynecology and obstetrics and develop interpersonal and communication skills that foster better interaction between doctor and patient, using scientific reasoning and critical attitude that correlates the knowledge of pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
MEDICAL ANTHROPOLOGY	**MD 217**	Examine the cultural and social factors that influence and determine all historical phenomena related to health and disease.
PUBLIC HEALTH AND EPIDEMIOLOGY	**MD 219**	Identify, characterize and assess problems of public health and epidemiology from a multidisciplinary aspect.
DECISION ANALYSIS I	**MD 221**	Develop the skills medical clinics required in their professional activity, through training in the appropriate scenarios and the development of a critical capacity, which would give him timely and quality response to the health needs of the population, sustained in evidence-based medicine and/or problem-based learning and translate it into a mind map.
INTERNAL MEDICINE III (NEUROLOGY ANDY ENDOCRINOLOGY)	**MD 223**	Understand, integrate and master the fundamentals of knowledge of Internal Medicine in neurology and endocrinology. Also, the student must analyze the functional alterations that occur in disease and use scientific reasoning and a critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
PEDIATRICS II	**MD 225**	Master the basics of the assessment of pediatric syndromes. Also, analyzing the functional alterations that occur in pediatric disease and use scientific reasoning and critical attitude that correlates the knowledge of General Pediatrics at an appropriate diagnosis and treatment.
GENERAL SURGERY III (OPHTALMOLOGY AND ENT)	**MD 227**	Master the fundamentals of knowledge of Ophthalmology and Otolaryngology. Analyze functional alterations occur in diseases related to these areas. Through scientific reasoning and critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.

OBSTETRICS GYNECOLOGY III	MD 229	Generate knowledge, skills, skills, and/or tools necessary to identify and standardize diagnostic criteria, treatment and referral of patients with advanced Obstetrics Gynecological problems.
MEDICAL PSYCHOLOGY	MD 230	Analyze the origin, development and the principles underlying medical psychology as an important part of the doctor-patient relationship and the way in which the student must make the relationship with their organic problems.
FAMILY AND COMMUNITY MEDICINE	MD 232	Analyze the theory of family and social community in the environment, seeking to integrate both concepts, to obtain an attitude of professional social commitment and to promote, preserve, enhance, restore and rehabilitate the health of human beings in their work daily.
DECISION ANALYSIS II	MD 239	Strengthen clinical skills in different medical areas, supported by clinical and research tools that were generated in the previous course. Facilitate the student develops with evidence-based medicine clinical aptitude that according to their academic level underpins the diagnosis, application studies and clinical treatment based on real cases.
INTERNAL MEDICINE IV (CARDIOLOGY AND PNEUMOLOGY)	MD 241	Master the fundamentals of knowledge of Internal Medicine in Cardiology and Pneumology area. Likewise, analyzing the functional alterations that occur in disease. Use scientific reasoning and a critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
PEDIATRICS AND TEENAGE MEDICINE	MD 243	Master the basics of specialized aspects in the management of pediatric patients and adolescent medicine. Also, analyze the functional alterations that occur in pediatric disease and use scientific reasoning and critical attitude that correlates the knowledge of Specialized Pediatrics and Adolescent, with appropriate diagnosis and treatment.
GENERAL SURGERY IV (PLASTIC Y NEUROSURGERY)	MD 245	Master the fundamentals of knowledge of Reconstructive Plastic Surgery and Neurology. Likewise, analyzing the functional alterations that occur in disease. Use scientific reasoning and a critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
HEALTH AREA MANAGEMENT	MD 247	Generate learning and knowledge of the theory of the administrative process, defining their strengths and weaknesses, differentiating some theoretical alternatives that reveal the

		administrative processes as key to the smooth functioning of health services.
BIOETHICS IN MEDICAL PRACTICE	**MD 249**	Analyze the ethical values and legal rules that may apply to situations related to the area of health and life, highlighting its importance in practice professional medical safeguard the dignity and rights of people in their care.
LEGAL AND FORENSIC MEDICINE	**MD 252**	Understand and master the fundamentals of knowledge of Legal Medicine in complementary areas to the common core in Medicine. Understanding the basics of the development of their profession from a legal perspective in general, not just criminal, and in turn have the existing elements in forensics.
GENERAL STUDIES IV		
EMERGENCY MEDICINE	**MD 303**	Master the basics of Emergency Medicine as an integrating element and use scientific reasoning and critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
INTERNAL MEDICINE V (RHEUMATOLOGY AND DERMATOLOGY)	**MD 305**	Master the basics of Internal Medicine in rheumatology and dermatology. To analyze the functional alterations that occur in the disease and to use scientific reasoning and critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
TRAUMA AND ORTHOPEDIA	**MD 309**	Master the basics of Trauma and Orthopedics. Analyze the alterations that occur in skeletal muscle or neuromuscular system and use scientific reasoning and critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
HEALTH SERVICE QUALITY	**MD 311**	Develop an approach to planning and implementing marketing strategies and quality services companies health and understand service organizations on their own terms and then adjust the goals and strategies of marketing and service quality health according to that.
WORK MEDICINE	**MD 315**	Identify risk factors for health from performing work. Diagnose pathological manifestations result from the performance of the various work activities; appropriate preventive measures and meet the current labor legislation.
PSYCHIATRY	**MD 317**	Master the fundamentals of psychiatry. To analyze the functional alterations that occur in mental illness and use scientific reasoning and a critical attitude that correlates the understanding of the

		pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
GENERAL STUDIES V (CO-CURRICULAR)		
GRADUATION PROJECT I	**MD 498**	Validate the ability to integrate theoretical and practical knowledge to solving a specific problem within the chosen orientation.
PATHOLOGICAL ANATOMY	**MD 322**	Generate interest and skills for the student to master the fundamentals of knowledge Morphology in Pathology. Also, to analyze the functional alterations that occur in disease and using scientific reasoning and a critical attitude anatomoclinical map the knowledge and pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
CRITICAL MEDICINE AND ANESTHESEOLOGY	**MD 324**	Master the fundamentals of knowledge of Anesthesiology and Critical Care Medicine. To analyze the functional alterations that occur in the disease and use scientific reasoning and a critical attitude to correlate the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
INTERNAL MEDICINE VI (NEPHROLOGY AND ONCOLOGY)	**MD 326**	Master the fundamentals of knowledge of Nephrology and Oncology. Analyze functional alterations occur in disease.
GERIATRICS	**MD 328**	Master the fundamentals of knowledge of geriatrics. To analyze the functional alterations that occur in the disease and to use scientific reasoning and critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
GRADUATION PROJECT II	**MD 499**	Validate the ability to integrate theoretical and practical knowledge acquired by the student throughout the degree, to solve a specific problem within the chosen orientation.
IMAGENOLOGY	**MD 333**	Master the fundamentals of knowledge of imaging. Also, analyze the functional alterations that occur in disease and use scientific reasoning and a critical attitude that correlates the understanding of the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
ROTATION I UNDERGRADUATE INTERNSHIP	**MD 336**	Master the basics of hospital practice and in their rotations and Community Emergency, integrate the pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.

ROTATION II UNDERGRADUATE INTERNSHIP	MD 401	Master the basics of hospital practice high level and use scientific reasoning and critical attitude that correlates the knowledge of Internal Medicine, Gynecology and Obstetrics, Pediatrics, General Surgery, as the main trunk and its rotations Community and ER, integrate pathophysiology, prevention or failing diagnosis, adequate treatment and rehabilitation.
GENERAL STUDIES I ELECTIVES		
INFORMATION CULTURE	BC 110	Analyze the impact of information and knowledge in today's society, developing habits and skills needed for continuous updating through access, validation, production and use of information as a tool for research and decision-making within his career academic and later professional.
INFORMATION TECHNOLOGIES	MD 103	Establish and assess the strategic importance of information technology in organizations and develop the skills to use them as support operations, decision-making and competitive advantage of organizations.
GENERAL STUDIES II ELECTIVES		
MEDICAL STATISTICS	AE 100	Apply the most common methods of analysis and interpretation of data through extraction, recognition, classification, description, presentation, and inference based on theoretical and practical foundations that distinguish him, manipulate, compare and reorganize information to justify those decisions.
FUNDAMENTALS OF BIOLOGY	BL 102	Analyz the science of biology emphasizing modern ideas about the phenomenon of life. Unity, diversity and emergent properties in physicochemical and evolutionary context.
GENERAL STUDIES III ELECTIVES		
PRINCIPLES OF ECONOMICS	EC 105	Develop the basic elements of economic analysis emphasizing its application to understanding contemporary economic phenomena.
HOSPITALITY INDUSTRY	HR 120	Assess development opportunities and work the Hospitality Industry offers. Analyze the components that make up the Hospitality Industry and the importance of them. Analyze the background of hotels and restaurants, its characteristics, organization, importance and relationship between the

		components that make up the Hospitality Industry. Handle different products hotels and restaurants, its features and structures; and the current form of marketing them through their properties, franchising, management contracts and affiliations chains.
MARKETING FUNDAMENTALS	**MK 111**	Build the marketing initial concepts and learning covering the general aspects of this area. The elements of the definition and orientation of marketing are analyzed in detail at the beginning of the course to be used later to develop marketing strategies, which include target market analysis and marketing mix.
INTERCULTURAL ADMINISTRATION	**NI 340**	Identify the main cultural differences between blocs of countries, to be able to develop effective management strategies. Master international expansion strategies and understand their implications in the administrative processes of organizations.
GENERAL STUDIES VI ELECTIVES		
HEALTH RESEARCH	**MD 313**	Apply the methodology of research on scientific research studies using qualitative and quantitative method through observation, experimentation, using as a tool epidemiology and biostatistics to conduct real investigations in solving health problems.
RESEARCH METHODOLOGY	**HA 474**	Analyze the theoretical and methodological elements used in scientific research in general and the specific methods of the scope of the art historian.
GENERAL STUDIES V CO-CURRICULAR ELECTIVES		
PHOTOGRAPHIC COMPOSITION WORKSHOP	**TL 100**	Handle the camera as a tool of expression, to show their skills and photographic sensitivity.
HUMAN DEVELOPMENT AND RISK BEHAVIOR WORKSHOP	**TL 300**	Evaluate some risk behaviors: sexuality, eating disorders and drugs that threaten their physical health, determining factors of protection against them. You will recognize the importance of emotional life, human development and life planning as elements of protection against risk behaviors.
CULTURAL ENTERTAINMENT WORKSHOP	**TL 120**	Know and appreciate different cultural manifestations through activities that will evaluate them creatively and critically culture in a diverse and plural space of participation.
LEARNING STRATEGIES WORKSHOP	**TL 310**	Develop skills for meaningful learning.

LICENCIATURA IN MUSIC

INSTRUMENT I	MU 131	Develop coordination skills to run a musical instrument with correct technique and master exercises and small works in armor of two sharps and two flats.
MUSICAL THEORY I	MU 101	Initially understand the language of music written and identify and analyze investments triads. Composing short phrases in a choral texture four voices.
ART, HISTORY AND CULTURE	AS 137	Identify, compare and link selected topics in the history of art emphasizing the influence of political, social and economic change in the transformation of both conceptualization models such as conservation of cultural heritage.
AUDITORY TRAINING I	MU 111	Develop listening skills and vocal intonation and relate auditory memory with music notation so that the student will sing and write rhythmic, rhythmic-melodic and harmonic progressions exercises major and minor triads primary.
GENERAL STUDIES I	EG	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
INSTRUMENT II	MU 132	Execute major and minor scales on a musical instrument with the correct technique and master exercises and musical works that expand the initial level of the student. Know the style of a baroque work and a classic work and be able to interpret it on the instrument.
MUSICAL THEORY II	MU 102	Apply the basic principles in writing for four voices and compose small pieces in a choral texture four voices.
MEDIEVAL AND RENAISSANCE MUSIC	MU 121	Know, identify and analyze representative works up to 1600. Know genres and musical styles prior to the baroque period, both vocal and instrumental.
AUDITORY TRAINING II	MU 212	Develop listening skills and vocal intonation and relate auditory memory with music notation so that the student will sing and write rhythmic exercises and rhythmic-melodic include subdivisions and syncopations in simple and compound meters and harmonic progressions primary triads major and minor.
SECOND LANGUAGE I	ID	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.

INSTRUMENT III	MU 233	Convincingly interpret a musical instrument with correct technique and achieve stylistically correct performance of musical works that correspond to a basic intermediate level.
MUSICAL THEORY III	MU 203	Analyze musical works of the Romantic period and compose small pieces in a coral texture four voices or instruments using a romantic musical language.
BARROQUE AND CLASSICAL MUSIC	MU 222	Distinguish, recognize and analyze representative works of the musical repertoire of the seventeenth and eighteenth centuries. Understand and relate the historical and social context of the time.
AUDITORY TRAINING III	MU 213	Develop listening skills and vocal intonation and relate auditory memory with music notation so that the student will sing and write rhythmic exercises and rhythmic-melodic include tonal melodies with some chromatic tones, melodies with modulations to nearby tonalities, divisions and subdivisions rhythms and irregular rhythms.
SECOND LANGUAGE II	ID	
CHOIR I	MU 251	Practice the essential aspects of choral performance, participate in a choir and gradually achieve mastery of the part that corresponds to your voice in aspects such as rhythmic and musical coupling with other members of the group and the interpretation of the elements that characterize the various musical styles.
INSTRUMENT IV	MU 234	Demonstrate coordination skills to play a musical instrument, playing a repertoire of three musical periods, with good technique, refined and rhythmic precision tuning in an advanced intermediate level.
CHROMATIC HARMONY I	MU 304	Accurately analyze, representative works of the musical repertoire of the first half of the twentieth century, writing two plays with a musical language that leaves the tone by modulating and solve exercises related to avant-garde forms of the time.
MUSIC IN THE 19TH CENTURY	MU 223	Summarize the life and work of composers, identify and analyze representative works of the repertoire, stylistic understanding the changes in music during the nineteenth century.
SECOND LANGUAGE III	ID	
AUDITORY TRAINING IV	MU 314	Develop listening skills and vocal intonation and relate auditory memory with music notation so that the student will sing and write rhythmic exercises and rhythmic-melodic include tonal melodies with some chromatic tones, melodies with modulations to nearby

		tonalities, divisions and subdivisions rhythms and irregular rhythms.
CHOIR II	**MU 252**	Apply choral interpretation knowledge acquired in theoretical courses, auditory training and music history, singing works in different languages and different musical styles, periods both baroque, classical and romantic as well as choral music of the twentieth century popular music.
INSTRUMENT V	**MU 335**	Analyze and memorize the intended repertoire presenting a recital at the end of the course in which both technical progress and musicality, stage presence and mastery of various musical styles in basic advanced level is evaluated.
CHROMATIC HARMONY II	**MU 305**	Apply the principles and rules of writing and musical analysis in works reflect both Western musical repertoire of the twentieth and twenty-first century, and compositional work produced under the contemporary musical models.
MUSIC FROM THE 20TH CENTURY	**MU 328**	Identify and analyze representative works of the musical repertoire of the twentieth and twenty-first century. The life and work of composers of the time, new trends and musical styles, understanding its relation to historical development.
AUDITORY TRAINING V	**MU 315**	Develop listening skills and vocal intonation and relate auditory memory with music notation so that the student will sing and write rhythmic exercises and rhythmic-melodic caacterísticos of the twentieth century: irregular beats, time signature changes, key changes, modal and atonal melodies.
GENERAL STUDIES II	**EG**	
CHAMBER MUSIC I	**MU 261**	Implement strategies work together to achieve a good rhythmic and musical link and interpret works of different musical styles.
INSTRUMENT VI	**MU 336**	Demonstrate, by mastering exercises and musical works, instrumental technique gained to this level, showing qualities of musical maturity, centered intonation and rhythmic precision.
MUSIC IN MEXICO	**MU 326**	Summarize historical, social, artistic and musical endeavor particularly in Mexico, from the baroque to the present day, with representative works and authors of the Mexican music scene aspects.
MUSICAL ANALYSIS	**MU 307**	Identify and analyze through the application of analytical techniques representative works of the Western musical repertoire from the seventeenth to the twenty-first century.

CULTURAL RESEARCH AND CRITICISM	HU 290	Develop the necessary tools to analyze cultural products and to put together a review that serves to elucidate and present publicly. Also, develop practical mechanisms to detect points of interest in cultural productions (such as film, literature or art); resources database and publications where you can compare them and nurture their critical argument are identified.
CHAMBER MUSIC II	MU 262	Apply the knowledge acquired in Chromatic Harmony I and II, Musical analysis, Counterpoint, History of Music in the nineteenth century and music from the twentieth century depending on the repertoire assigned to each musical ensemble
SOCIAL RESPONSIBILITY	RS 498	Link their knowledge and professional experience with their environment by developing a social project, that will contribute professionally and humanely for the educational and cultural development of their community.
INSTRUMENT VII	MU 437	Play a musical instrument with advanced technique, dominating exercises and musical works of the post-romantic and contemporary period. Public presentations self-assessment of aspects of concentration, memory, muscle control, nervousness, stage projection.
ORCHESTRATION	MU 406	Identify and know the instruments of the symphony orchestra and its features such as timbre, color and sound field, compatibility with other sound both acoustic and electronic media and sound balance of forces. Analyze and write orchestral arrangements based on the Western musical repertoire, applying knowledge of music theory and execution.
GENERAL STUDIES III	EG	
MUSIC AND COMPUTERS	MU 218	Apply theoretical and historical knowledge and use the main tools and software related to the field of writing and musical creation. Develop electronic versions of sheet music and musical compositions, important elements in the development of musical skills both performers and composers and musicologists.
INSTRUMENT VIII	MU 438	Solve, in a self-sufficient way, problems of phrasing and general interpretation of musical works of any period and musical style. Demonstrate performance skills of a musical instrument with control, good concentration and musical maturity, essential characteristics of a potential player.
COMPOSITION I	MU 405	Create musical works for solo instrument and/or small ensembles with good melody and rhythm, applying theoretical and historical resources to enable the student. Demonstrate your knowledge and mastery of representative styles of the Western musical repertoire of the seventeenth century to the nineteenth.
GENERAL STUDIES IV	EG	

GRADUATION PROJECT I	MU 491	Select and propose a research topic, related to musical performance, composition, direction, theory or history; or a musical theme and its interaction with other arts. Deliver a viable and achievable schedule within a maximum of one year.
INSTRUMENT IX	MU 439	Show a higher advanced level of execution in rhythmic aspects, melodic, harmonic, structural, stylistic of the selected repertoire for titling project. Present a recital with works representing four musical periods: baroque, classical, romantic and twentieth or twenty-first century.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
GRADUATION PROJECT II	MU 492	Successfully conclude the graduation project. At the end of the semester, defend their project before a jury.
COUNTERPOINT ELECTIVES		
MODAL COUNTERPOINT	MU 301	Identify, analyze and write the counterpoint of species, that is, in modal style as explained by the work of the musical pedagogue Johann Joseph Fux (1660-1741) in his book Gradus ad Parnassum.
TONAL COUNTERPOINT	MU 302	Know and apply principles and techniques of writing imitative counterpoint, mainly exemplified by the work of the German composer Johann Sebastian Bach (1685-1750).
THEORY ELECTIVES		
MARKETING FUNDAMENTALS	MK 111	Analyze in detail the beginning of the course the general aspects of this specialty. Analyzing the definition and orientation of marketing and later used in the development of marketing strategies, which include the target market analysis and marketing mix.
CULTURAL MARKETING	MK 322	Describe and apply options, strategies, methodologies, techniques and materials for the process design, planning, production, financing, distribution, promotion, implementation and development stage projects to reconcile the theoretical aspects with the technical and practical.
HISTORY OF JAZZ	MU 123	Distinguish and analyze representative works of the repertoire of jazz. Identify the great interpreters of the genre in the twentieth century and today.
POPULAR MUSIC: SELECT MUSIC	MU 124	Distinguish popular genres in the world of the twentieth and twenty and analyze representative works of the repertoire century music. Assess the social, economic and cultural aspects of different countries.
MUSIC FROM THE BEATLES	MU 125	Identify and analyze the life and work of the musical group the Beatles, which is already part of musical history.

MUSICOLOGY	**MU 420**	Analyze the basic techniques of music research and identify the intellectual processes from which the reflection on music as a cultural phenomenon starts. Given the nature of this subject, it is not possible to establish specific content, but rather work strategies to develop students' research projects.
COMPOSITION II	**MU 404**	Compose musical works for instrumental chamber ensembles and symphonic composition using advanced techniques, modern languages own musical writing music of the twentieth century.
REPERTOIRE: SELECT MUSIC	**MU 107**	Identify and analyze representative works of the Western musical repertoire, encompassing chamber music, opera, concert, great soloists and conductors. Develop critical reviews on musical issues a select repertoire.
ACTOR TRAINING II	**TE 115**	Develop the variety of possibilities regarding voice placement, projection, tessitura and resonators from a personalized training, Link with music and opportunity to participate in assembly.
ART AND SENSE	**AP112**	Understand the relationship between art and philosophy, from a historical perspective, as a reflection resulting from the evolution of the philosophy of language - and from a thematic perspective, as a key element to understand the paradigm shift that seems to characterize production Cultural contemporary and fresh. Analyze the cultural crisis in his own work of interpretation and production of various cultural artifacts are located. Originality is to incorporate historical, thematic and analytical approaches for applying an overview, but consciously and rigorously constructed in more practical subjects such as Creation, Art Criticism and Research and cultural criticism.
ART SOCIOLOGY	**HA 308**	Know and understand the main features of discourses and methodologies of the sociology of art, between different approaches to the restructuring of the theory of art developed in the 2nd half of the twentieth century.
ART CRITICISM	**HA 318**	Diagnose through historical origins and developments highlights of art criticism from the eighteenth century to the present day and understand the various theoretical foundations from which we can build a reasoned judgment, and by detailed analysis of some of the contributions of art criticism today.
CURRENT ART THEORY	**HA 418**	Diagnose and analyze the outlook for discussion Modernity-Postmodernism as a focal point of debate in which the development of artistic practices based throughout the twentieth century and especially in the current era. successfully understand the different approaches and controversies that make up the debate in question and capacity to employ its terms critically and supported.

MATH AND SCIENCE IN THE ARTS	**MA 129**	Compare and interpret mathematical forms of nature and the arts. Using mathematical concepts set, space, dimension, and symmetry. Relate the concepts of space and time from the point of view of the arts and science. Using physical concepts of entropy and time. Calculating symmetry groups of figures in the plane. Using the concepts of self-similarity and dimension.
MUSICAL ENSEMBLE ELECTIVES		
CHOIR III	**MU 253**	Consolidate knowledge, skills and professional attitudes for musical performance in the context of a choral ensemble, all through the detailed study of a typical choral repertoire, mainly from the classical period.
CHOIR IV	**MU 254**	Know and apply a representative choral repertoire of the Romantic period, which can be presented, strengthening teamwork.
CHOIR V	**MU 255**	Strengthen the voice through vocal exercises to improve intonation, diction and respiration, elements of great importance in the sonic result of a good choir.
CHOIR VI	**MU 256**	Demonstrate the ability to read at first glance, focused tuning, good diction, pronunciation skills at least three foreign languages and professional attitudes for musical performance in the context of a choral ensemble.
CHAMBER MUSIC III	**MU 263**	Play a musical instrument in an integrated assembly of two or three students, rehearse and discuss the various criteria of musical interpretation. Implement strategies to achieve a good rhythmic and musical link with other students and perform works of various musical styles.
CHAMBER MUSIC IV	**MU 264**	Understand the repertoire of chamber music by performing works of popular character in musical ensembles that include unconventional instrumentations, such as piano trio and quartet string. Analyze genres like rock, bolero, pop, improvisation, jazz, flamenco.
CHAMBER MUSIC V	**MU 265**	Compose music and collaborate directly with performers interested in new music, improvisation, electronic music, instrumental contemporary art, film music, chamber groups and integrating musical ensembles generating the test, presentation and recording repertoire.

CHAMBER MUSIC VI	MU 266	Consolidate a chamber ensemble formed in advance and through advice and rehearsal, prepare a chamber music program with a minimum duration of 30 minutes and a maximum of 45 minutes, the works must be original for the group. The level of execution of the group will allow to include at least one chamber work in a degree project
ORCHESTRA I	MU 271	Demonstrate overall performance skills and professional attitudes for musical performance in the context of an orchestral ensemble. Knowing and preparing a repertoire of basic level.
ORCHESTRA II	MU 272	Present a representative orchestral repertoire of the baroque and classical period. Prepare the instrumental material to present an audition orchestra. Apply the necessary technique to serve as an integral section and not as a soloist, contributing to a uniform on all the basics of music sound result.
ORCHESTRA III	MU 273	Present an orchestral repertoire representative of the Romantic period, demonstrating sight-reading skills, accurately executing orchestral fragments.
ORCHESTRA IV	MU 274	Present an orchestral audition, preparing a classic, preferably a concert soloist, orchestral pieces like Beethoven's Fifth Symphony, Brahms's First Symphony.
ORCHESTRA V	MU 275	Present with technical solvency postromantic representative works of music and the twentieth century. Identify, read and understand chromatic and avant-garde works, showing ability to sight reading accurately and prepare the repertoire in less time.
ORCHESTRA VI	MU 276	Present an orchestral theme orally and in writing, encompassing great conductors, great symphonies, from any musical period. Execute theoretical and historical research works on orchestral aspects.

LICENCIATURA IN NANOTECHNOLOGY AND MOLECULAR ENGINEERING

BASIC MATH	MA 111	Solve problems using elementary mathematical concepts and techniques and efficiently operate the algebra of sets in solving problems typical of their professional practice. Use the concepts of algebra to construct graphs of functions related to current problems.

INTRODUCTION TO NANOTECHNOLOGY	NT 100	Nanotechnology is not necessarily a new discipline but a new way to integrate nanoscale and produce a multidisciplinary elements and new devices that are at the intersection of the basic sciences (chemistry, physics, biology, mathematics), technologies manufacturing for organic materials and devices and inorganic for different fields of application (medicine, electronics and communications, robotics / mechatronics, computer systems) objective of this matter, Introduction to Nanotechnology, is then motivate student learning and make it mentally insert in this universe of multidisciplinary knowledge, understanding some of the major challenges of the development of this area, and meet some of the existing potential applications to establish a picture of what is nanoscience and nanotechnology (nanoCyT) today. It is also important to raise awareness of potential security issues and ethics of these technologies if not used properly.
ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java
SECOND LANGUAGE I	ID	
SECOND LANGUAGE LAB I		
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL CHEMISTRY	QC103	The student will have a solid knowledge of the properties of matter, chemical characteristics and natural physical recovery of elements and compounds, as well as the treatment of chemical equilibrium and dynamic.
GENERAL CHEMISTRY LAB	QC 108	Acquire the necessary skills and identify the laboratory equipment required to apply techniques in a chemistry lab. Identifying properties and reactions of elements and compounds that exclude carbon.
CALCULUS I	MA 130	Apply differential calculus in problem solving and decision making, through the solution of different exercises such as: determining the domain of a given function, finding the linear approximation of a function at a given point and drawing the graph of a function, determine its asymptotes, maxima, minima, and inflection points.

SECOND LANGUAGE II	ID	
SECOND LANGUAGE LAB II		
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
INTEGRATED CIRCUITS ELECTRONICS	NT 120	The student will build knowledge of the analog functional blocks for the design of analog integrated circuits with a complete and concise vision of the engineering in high scale of integration for the VLSI manufacturing. Study the VLSI analog design methodologies, as well as the structures and topologies for the design of analog circuits oriented towards large-scale integration.
INTEGRATED CIRCUITS ELECTRONICS LAB	NT 125	Complement the theoretical knowledge acquired in the Electronics course through specialized programs in computer simulation, the behavior of the basic cells VLSI most common. Study design methodologies Analog VLSI and structures and topologies for the design of analog circuit oriented large-scale integration.
LINEAR ALGEBRA	MA 127	Handle fundamental concepts of linear algebra. Also distinguish and solve different systems of linear equations.
ORGANIC CHEMISTRY I	QC 223	Distinguishing the different functional groups and structures of organic compounds and identify various organic reactions and their mechanisms. Also, properly handle the nomenclature, stereochemistry, structure and reactivity in acid-base processes.
ORGANIC CHEMISTRY LAB I	QC 225	Develop the necessary skills to identify the basic material required for any organic chemistry laboratory. Use such material for the separation, purification and identification of organic substances and apply all security requirements for laboratory work.
INORGANIC CHEMISTRY I	QC 202	Determine the implications of energy in the formation of chemical bonds, both atoms and molecules, as well as the forces supporting the molecular structure (highlights the various definitions of acids and bases and their relationship to the study of solution chemistry). Handle chemistry of transition metals and general properties of their compounds.
INORGANIC CHEMISTRY LAB I	QC 207	Perform complex reactions and recognize them for their properties. Experiencing the relative stability of some complex. Observe reaction products, structures and thermodynamic properties. Perform spectra identification of groups.

CALCULUS II	MA 132	Master basic integration techniques choose the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
SECOND LANGUAGE III		
SECOND LANGUAGE LAB III		
DIGITAL CIRCUITS	IE 103	Motivate the student to acquire the knowledge and methodologies required to simulate, analyze, design and implement digital circuits. Demonstrate the use of logical reasoning methods in the analysis and design of digital circuits. Properly handle the tools for the design of digital circuits.
DIGITAL CIRCUITS LAB	IE 104	Motivate the student to acquire the knowledge and methodologies required to simulate, analyze, design and implement digital circuits. Demonstrate the use of logical reasoning methods in the analysis and design of digital circuits. Properly handle the tools for the design of digital circuits.
ORGANIC CHEMISTRY II	QC 224	Identify the various mechanisms of ionic reaction of organic compounds and the chemistry of the functional groups from a practical point of view.
ORGANIC CHEMISTRY LAB II	QC 229	Apply the technique and skills necessary to carry out organic reactions with different functional groups. Identify the different ionic reaction mechanisms experimentation using organic reactions and theoretical knowledge spectroscopy for identification of reactants and products.
MOLECULAR MATERIALS I	NT 220	Master knowledge on the properties, structure and materials derived from different chemicals from the point of view of the chemical sciences and considering their potential technological application as nanostructured materials. Understand the relationship existing between structure and molecular properties and those macroscopically.

VECTORIAL CALCULUS	**MA 230**	Pose, solve and interpret problems involving the concepts of history, vectors, velocity, acceleration, tangent, normal and binormal. Handle and interpret the concepts of gradient, divergence and rotation and their interrelationships. Pose, solve and interpret problems involving line integrals and surface. Manage and interpret the theorems of Green, Stokes and Gauss divergence. Calculate the gradient, divergence and rotational in rectangular coordinate systems, cylindrical and spherical.
ORDINARY DIFFERENTIAL EQUATIONS	**MA 227**	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
PHYSICS OF SOLID STATE	**NT 230**	This course will introduce the student to the principles of solid state electronics. The principles of the solid state to design circuits with transistors is an essential part to understand the behavior of the devices used in courses Electronics, Digital Design, VLSI Design Digital and Analog VLSI Design.
VLSI DIGITAL DESIGN	**NT 240**	The student will build knowledge of the analog functional blocks for the design of analog integrated circuits with a complete and concise vision of the engineering in high scale of integration for the VLSI manufacturing. Study the VLSI analog design methodologies, as well as the structures and topologies for the design of analog circuits oriented towards large-scale integration.
VLSI DIGITAL DESIGN LAB	**NT 245**	Complement the theoretical knowledge built in the Digital VLSI Design course by specialized computer software simulation, to analyze the behavior of VLSI digital systems.
BIORGANIC	**QC 320**	Distinguishing different reactions with carbon nucleophiles and reactions and methods of obtaining aryl halides and organometallic compounds and describe a mechanism different enolates. Also, solving problems related to the role in the chemistry of life that are natural products derived from acetate and nitrogenous natural compounds

BIORGANIC LAB	**QC 325**	Develop the skills necessary to carry out organic synthesis reactions multistage catalytic reactions and reactions of nitrogen compounds and oxygenates natural and performing biochemical tests. Find a continuity with previous laboratories. Finally, apply theoretical knowledge of spectroscopy.
MOLECULAR MATERIALS II	**NT 320**	Increase knowledge on the properties, structure and materials derived from different chemical compounds, from the point of view of chemical sciences and considering their potential technological application as nanostructured materials. Understand the relationship between structure and molecular properties and those at the macroscopic level.
MOLECULAR MATERIALS LAB	**NT 325**	Increase knowledge on the properties, structure and materials derived from different chemical compounds, from the point of view of chemical sciences and considering their potential technological application as nanostructured materials. Understand the relationship between structure and molecular properties and those at the macroscopic level.
ADVANCED INORGANIC CHEMISTRY	**QC 402**	Describe the fundamental aspects of the synthesis, kinetics and reaction mechanisms of coordination compounds, as well as understand the structure, reactivity and properties of organometallic compounds, to finally discuss some aspects of the descriptive chemistry of transition metals, their abundance and environmental and biological effects.
ADVANCED INORGANIC CHEMISTRY LAB		Describe the fundamental aspects of the synthesis, kinetics and reaction mechanisms of coordination compounds, as well as understand the structure, reactivity and properties of organometallic compounds, to finally discuss some aspects of the descriptive chemistry of transition metals, their abundance and environmental and biological effects.

NUMERICAL METHODS	MA 318	Learn elementary numerical methods for approximation of solutions, annotation and estimation of errors in a wide range of mathematical problems: resolution of linear and non-linear equations, numerical interpolation and integration, as well as solution of differential equations. Mathematically model a situation and solve problems with mathematical techniques using those numerical methods that best fit the given characteristics. Know how to discern which of a range of numerical methods is the most appropriate when solving a given problem, depending on the characteristics that concur. Find appropriate intervals to numerically approximate zeros of nonlinear functions. Solve linear systems using direct and iterated methods
MODERN PHYSICS I	FS 340	Present the physics of the twentieth century, emphasizing the difficulties of classical physics which gave rise to the theory of relativity and quantum mechanics. foundations of quantum mechanics are studied from a point of view that combines formality with intuition.
GENERAL STUDIES II	EG	
ADVANCED ORGANIC CHEMISTRY	QC 321	Distinguish heterocyclic compounds and terpene since many of them are found as such in nature and are the key to many biological processes. Also, identify Pericyclic, photochemical and apply them to everyday problems and apply their knowledge in solving practical problems in laboratory reactions.
ADVANCED ORGANIC CHEMISTRY LAB		Apply their knowledge in solving practical problems in the Laboratory. Also distinguish heterocyclic and terpenic compounds since many of them are found as such in nature and are the key to many biological processes. Identify pericyclic and photochemical reactions and apply them in everyday problems.
ELECTROMAGNETIC THEORY	NT 330	The student to master the conceptual foundations of management of electromagnetic theory and its application in the analysis, design and construction of transmission lines for optical devices in integrated optics technology for applications in optical communication systems.
SENSORS	NT 340	The student will build knowledge of the analog functional blocks for the design of analog integrated circuits with a complete and concise vision of the engineering in high scale of integration for the VLSI manufacturing. Employ VLSI analog design methodologies, as well as structures and topologies for analog circuit design geared towards large-scale integration.

SENSORS LAB	NT 345	The student will build knowledge of the analog functional blocks for the design of analog integrated circuits with a complete and concise vision of the engineering in high scale of integration for the VLSI manufacturing. Study the VLSI analog design methodologies, as well as the structures and topologies for the design of analog circuits oriented towards large-scale integration.
VLSI ANALOGIC DESIGN	NT 350	The student will have the ability to design, simulate and describe the layout of analog integrated circuits and VLSI mixed mode. The emphasis is on designing CMOS circuits but it is possible that projects the study was extended to BiCMOS circuits. Special emphasis is placed on the design of operational amplifiers as these are the basic building block for filters, comparators and converters A / D and D / A. The template for the design of the integrated circuit is designed for all circuits considered in this course. extensive use of computational tools such as MATLAB, HSPICE and Cadence is made.
SURFACE PHYSICOCHEMISTRY	QC 430	Present and develop the principles of physical chemistry, emphasizing those areas of critical importance to the chemical sciences.
SURFACE PHYSICOCHEMISTRY LAB		Present and develop the principles of physical chemistry, emphasizing those areas of critical importance to the chemical sciences.
GENERAL STUDIES III	EG	
INTRODUCTION TO MICROELECTROMECHANIC SYSTEMS (MEMS)	NT 360	MEMS devices include electronic and micromechanical complete systems that integrate a CMOS integrated circuit, bipolar or BiCMOS technology. Microelectronic systems are the brains of the system, and micromechanical sensing and control systems allow the atmosphere, thus increasing the capacity of the microelectronic system to make intelligent decisions. The sensors and actuators have traditionally been the most expensive part of an intelligent control system but using semiconductor manufacturing techniques can integrate and significantly lower the cost of MEMS for incorporation into Nanosystems. The objective of this matter, then, is to present the fundamentals of materials, devices and integrated MEMS microfabrication techniques devices, so that the student can design, manufacture and test them. (This course, of the practical side, assumes the existence of a strategic alliance with any industry or research center that has semiconductor manufacturing lines at nano level). If not possible, it takes a purely theoretical nature of teaching the processes of design, manufacture, integration and testing of MEMS devices for different applications.

INTEGRATED OPTICS	**NT 370**	Master the conceptual and operational management of the fundamentals of optics, as well as its application in the analysis, design and construction of optical devices in integrated optics technology for applications in optical communications systems.
INTEGRATED OPTICS LAB	**NT 375**	Increase and consolidate the knowledge acquired in the theoretical Integrated Optics course by experimental verification of different effects.
MOLECULAR SENSORS	**NT 380**	Build the fundamental concepts that determine the molecular recognition processes, both chemical and biological, their structures, properties and their application in the development of sensors for the detection of molecules in different states of aggregation, using variations in properties that can be measured with ease using a solid-state sensor.
MOLECULAR SENSORS LAB	**NT 385**	Discuss the fundamental concepts that determine the molecular recognition processes, both chemical and biological, structures, properties and application in the development of sensors for the detection of molecules in various states of aggregation, using variations in properties that can be measured with ease using a solid-state sensor.
EMBEDDED SYSTEMS	**NT 390**	The student will acquire theoretical and practical knowledge of the basic components in which architecture and programming of embedded systems is based and able to: use the techniques recent of the design and programming of microprocessors and microcontrollers, peripheral elements associated memory and interfaces input / output buses, communication and control systems, and can apply the methods of flow simulation data for the design of embedded systems for acquisition, processing and transmission of information applied to MEMS and nanostructures.
QUANTUM MECHANICS I	**FS 437**	First part of the presentation of the formalism of Quantum Mechanics. Once the phenomenology of microscopic systems has been studied in previous courses, this course introduces the mathematical rigor and elegance of the description of quantum systems.
SOCIAL RESPONSIBILITY	**RS 498**	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
COMPUTER CHEMISTRY	**QC 433**	Apply the concepts derived from quantum mechanics in the simulation of chemical structures and reactions in a numerical way, allowing the study of chemical phenomena in computers and obtaining information on stable molecules, unstable intermediaries and transition states..

COMPUTER CHEMISTRY LAB		Apply the concepts derived from quantum mechanics in the simulation of chemical structures and reactions in a numerical way, allowing the study of chemical phenomena in computers and obtaining information on stable molecules, unstable intermediaries and transition states.
TELECOMMUNICATIONS	NT 410	The student will build the theoretical and practical knowledge of equipment, tools, technologies and connectivity protocols including mobile telecommunications and optical communications environments used in MEMS and nanostructures.
NANOBIOTECHNOLOGY	NT 420	Analyze the current state of biomolecular system applications in the development of nanotechnology and molecular engineering devices or techniques. Become familiar with the various nanoparticle handling and labeling techniques.
MATERIALS FOR MOLECULAR ELECTRONICS	NT 430	Apply the concepts of molecular and electronic properties, in streamlining the properties, structure and design of molecular materials for applications in molecular electronics.
GENERAL STUDIES IV	EG	
GRADUATION PROJECT I	NT 498	Validate the ability to integrate theoretical and practical knowledge acquired by the student throughout the degree, to solve a specific problem within the chosen orientation.
NANOTECHNOLOGY AND SOCIETY	NT 440	Discuss the implications of the development of nanoscience and nanotechnology in society, if these technologies had not been developed and if they are not used properly. The aim of this subject, Nanotechnology and Society, is to raise the student's awareness of possible control problems in the areas of Health, Ethics and Safety and present the main lines of debate about the impact and significance of nanotechnology in society, such as: Productivity and Equity. Quality of life. Social Future Scenarios. Future economic scenarios. Converging technologies. National Security and Space Exploration. Ethics, Governance, Risk and Uncertainty. Public politics. legal and international aspects. Interaction with the public. Education and Human Development.
GRADUATION PROJECT II	NT 499	Validate the ability to integrate theoretical and practical knowledge acquired by the student throughout the degree, to solve a specific problem within the chosen orientation.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
ELECTIVES		
SELECT NANOTECHNOLOGY TOPICS I	NT 450	Deepen knowledge on a topic of nanoscience and nanotechnology from a current point of view.
SELECT NANOTECHNOLOGY TOPICS II	NT 460	Deepen knowledge on a topic of nanoscience and nanotechnology from a current point of view.

OPTICS	FS 370	Develop conceptual skills to understand two physical models to describe luminous phenomena, and thus optical instruments to analyze contemporary.
COMPUTER PHYSICS	FS 432	Provide students with an introduction to the methods of computational modeling of physical systems solving problems of classical and modern physics.
MODERN PHYSICS II	FS 440	Provide the student an introduction to atomic systems with many electrons, the molecular bonds, some properties of crystalline solids and atomic nuclei and familiarize with statistics commonly used in systems of many particles.
INSTRUMENTAL ANALYTICAL CHEMISTRY	QC 342	Introduce the student in the broad field of instrumental analysis techniques, so they can develop a critical character when judging the accuracy and precision of experimental data. Discipline in the study and accountability in laboratory work associated with the course will give the student the means to shape these judgments.
SYNTHETIC ORGANIC CHEMISTRY	QC 421	Select raw materials required to synthesize an organic molecule complex using the method of Retrosynthesis. Identify and implement the most suitable for the preparation of an organic compound from raw materials selected techniques. Distinguish and implement different strategies of organic synthesis. Solve synthesis of various organic substances.
APPLIED SPECTROSCOPY	QC 481	Name the theoretical foundations of methods of structural analysis. Select the most appropriate techniques for structural analysis of a sample. Describe and identify information that can give each of the various spectroscopic methods, and solve problems of varying magnitude, both particularly as relating various spectroscopic techniques.

LICENCIATURA IN PSYCHOLOGY

SECOND LANGUAGE I	ID	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
COGNITIVE PROCESSES I	PS 119	Analyze the sensory perceptual information processing, psychophysiological basis of care and apply methodologies for perceptual research. Describe the main theories and processes underlying the sensoperceptuales functions as well as design and conduct experiments related to such theories.
GENERAL STUDIES I	EG	

FUNCTIONAL ORGANIZATION OF THE NERVOUS SYSTEM	**PS 117**	Analyze the essential knowledge of the anatomical and physiological foundations of the main structures that make up the nervous system, to show the functioning of cells of the nervous system and the processes underlying neuronal communication.
FUNCTIONAL ORGANIZATION OF THE NERVOUS SYSTEM LAB	**PS 100**	Define the necessary knowledge to distinguish the processes underlying neuronal communication. Also explain the anatomical and physiological basis of the nervous system.
SECOND LANGUAGE II	**ID**	
PROFESSIONAL WRITING	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
COGNITIVE PROCESSES II	**PS 120**	Review the general characteristics of thinking, thinking styles and the general principles of some paradigms related to the cognitive sciences. Identify variables most frequently studied in human information processing being able to describe and evaluate the main theories and processes underlying cognitive functions.
CHILDHOOD PSYCHOLOGY	**PS 123**	Analyze the different facets of conception, birth, childhood and preadolescence of human and biological, psychological and socio-cultural changes occurring within the person during development in childhood.
BEHAVIOR PHYSIOLOGY	**PS 118**	Analyze how the activity of the nervous system controls behavior and how the environment affects the operation environment of the nervous system. Also, review the organic bases of some aspects of behavior.
BEHAVIOR PHYSIOLOGY LAB	**PS 107**	Analyze techniques and methodology to show how the activity of the nervous system controls behavior, to analyze the biological basis of some aspects of behavior.
SECOND LANGUAGE III	**ID**	
DESCRIPTIVE BEHAVIOR ANALYSIS	**PS 208**	Analyze basic concepts of mathematical notation used in the descriptive analysis of the data, define the relationship of statistics with the scientific method, applying statistical methods descriptive in analyzing the behavior and usefulness of the use of statistical methods descriptive of it. As well as the scope and limitations of the various tools of the descriptive analysis of the data.

MOTIVATION AND EMOTION	**PS 212**	Analyze the constructs of motivation and emotion, the main theories of motivation and emotion and major intrinsic and extrinsic motivations governing the conduct and analyze various alterations same motivation and its impact on health.
ADOLESCENT PSYCHOLOGY	**PS 202**	Differentiate the main and specific steps from adolescence, address the social and psychological processes of adolescent development.
PERSONALITY THEORIES	**PS 215**	Define what is personality and what is a theory of personality; identify the six domains that address the study of personality; recognize the main basic constructs and postulates of each domain, as well as the authors who developed them; identify the investigations and applications of each domain.
DRUGS AND BEHAVIOR	**PS 209**	Analyze the properties and effects of chemicals that affect human behavior.
PSYCHOLOGY AND GENDER	**PS 228**	Identify gender theory and demonstrate theoretical and practical knowledge about the physical, psychological and cultural variables that influence gender, through an extensive literature review (recent articles in scientific magazines) to carry out field research on the subject.
INFERENTIAL BEHAVIOR ANALYSIS	**PS 225**	Analyze the tools of inferential statistics and apply parametric and non-parametric tests in the systematic analysis of behavior.
LEARNING AND MEMORY	**PS 204**	Analyze the main theories and processes underlying learning and memory, as well as the variables that modify and optimize, practice empirical research on these variables.
LEARNING AND MEMORY LAB	**PS 234**	Describe the main theories and processes underlying learning and memory, as well as the variables that modify and optimize and conduct empirical research on variables such as laboratory experiments.
ADULTHOOD AND OLD AGE PSYCHOLOGY	**PS 224**	Analyze the psychological theories of the development of adulthood and old age, the biological, psychological and socio-cultural factors that intervene in human development from adulthood to old age and review the crises that man faces in their development cycle.
EDUCATIONAL PSYCHOLOGY	**PS 226**	Apply techniques and group management as well as evaluating the importance of education and its limitations, to specify the functions of learning, school environment and their relationship with educational psychology, basic aspects of human development in the context of formal education.

SELECT PSYCHOLOGY TOPICS I	PS 229	Analyze and discuss relevant issues in clinical psychology, organizational psychology, social psychology, educational psychology and others. Expand knowledge on specific issues of psychological knowledge.
INTERVIEW THEORY AND TECHNIQUE	PS 361	Define, differentiate and recognize the different types of psychological interview and characteristics, and start practicing it.
PSYCHOMETRY	PS 322	Acquire knowledge and skills to build, design and assess evidence of psychological measurement. And explain the use of different types of psychological tests and applications.
INTERVENTION IN SPECIAL GROUPS	PS 301	Analyze the theoretical and practical background of each intervention programs studied, the clinical symptoms of the most common disabilities and the importance of using psychological treatments in the study of the behavior observed in special groups. Perform a diagnostic approach of disability and integrate a report indicating the same respective treatments.
GENERAL STUDIES II	EG	
SOCIAL PSYCHOLOGY I	PS 304	Examine the basis and background of social psychology, methodology used to identify the factors and processes involved in social thought and the construction of the reality of the individual as well as the processes of interaction and social influence among social groups.
GENERAL STUDIES III	EG	
GENERAL STUDIES VI	EG	
EVALUATION OF INTELLECTUAL ABILITIES	PS 334	Explain the basics of psychological assessment to apply, qualify and interpret the different psychological tests concerning intellectual abilities of the person.
EDUCATION PSYCHOLOGY PRACTICES	PS 307	Carry out the Practices in educational psychology and intervention in special groups. Prepare programs for courses for specific physical or mental limitations in disabled people.
PSYCHOPATHOLOGY I	PS 309	Analyze the etiology, classification, clinical features and treatment of the most common emotional and behavioral disorders, with emphasis on those disorders in which the psychologist intervenes more directly.

SOCIAL PSYCHOLOGY II	PS 308	Analyze the main cultural studies in social psychology, psychology of the collective behavior concerning the environment and extreme situations. As well as models and studies on social relations and social impact of these.
LEADERSHIP AND DECISION-MAKING	PS 342	Analyze and identify decision-making techniques, the characteristics that define a leader, alternative leadership to exercise properly and the manifestation of these skills in organizations and its importance in today's society.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
PERSONALITY EVALUATION	PS 410	Explain the basics of psychometric assessment of personality, administer, score and interpret their results.
SYSTEMIC BEHAVIOR ANALYSIS	PS 412	Analyze the logic of different methods to carry out a systematic analysis of the behavior. Plan and carry out a project to analyze a specific problem.
PSYCHOPATHOLOGY II	PS 427	Analyze the etiology, classification, clinical features and treatment of the most common psychotic disorders, neuropsychological, of development and food, emphasizing those disorders in which the psychologist intervenes more directly.
PSYCHODYNAMIC TECHNIQUES	PS 409	Analyze the theory and Freud's psychoanalytic technique and the current state of the psychoanalytic movement.
GROUP COUNSELING	PS 426	Analyze the performance of small groups, also acquire group experiences through group dynamics developed in class.
SOCIAL RESPONSIBILITY	RS 498	Reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
GRADUATION PROJECT I	PS 428	Choose a research topic and establish the methodology necessary to carry out a thesis, once the student has made the relevant literature review. Develop the theoretical framework of the thesis, applying the tools following the appropriate methodology.
APTITUDE EVALUATION	PS 431	Explain the basics of aptitude tests and administer, score and interpret the techniques used in these tests.
COGNITIVE-BEHAVIOR TECHNIQUES	PS 433	Describe various techniques of cognitive behavioral intervention used to modify maladaptive behavior.

EXISTENTIAL-HUMAN TECHNIQUES	**PS 429**	Explain the theory and technique of humanistic-existence psychotherapy and Gestalt psychotherapy, applying it under supervision.
WORK PSYCHOLOGY	**PS 471**	Explain and manage the rules and techniques of the selection, evaluation and training of personnel processes in industrial psychology, describing, discussing and applying the principles of psychology used in industry to humanize work and improve quality of life.
ORGANIZATIONAL PSYCHOLOGY	**PS 436**	Analyze the functioning of the human side of organizations and identify how an organizational diagnosis.
GRADUATION PROJECT II	**PS 437**	Write a thesis according and prepare the presentation and defense before a jury.
PSYCHOLOGICAL EVALUATION PRACTICES	**PS 439**	Administer, score and interpret, using the software, the following psychometric tests: Scale preferential interest (Kuder) Scale skills (Kuder), Cleaver, MMPI 2 Kostick (PAPI), Moss, Allport, 16PF and Lüscher to carry out the diagnostic evaluation of individuals.
SELECT PSYCHOLOGY TOPICS II	**PS 441**	Analyze and discuss relevant issues of psychological knowledge in the areas of clinical psychology, organizational psychology, social psychology, educational psychology and others. Expand knowledge on specific issues of psychological knowledge.
CLINICAL PSYCHOLOGY PRACTICES	**PS 443**	Implement in practice the theoretical knowledge related to diagnostic methods, differentiation of behavioral disorders and intervention techniques for their solution.
PSYCHOLOGICAL COUNSELING IN INSTITUTIONS	**PS 438**	Analyze the main strategies of the psychology of human behavior in managing groups in institutions and organizations.
SOCIAL AND ORGANIZATIONAL PSYCHOLOGY PRACTICES	**PS 444**	Implement in practice the theoretical knowledge related to social and organizational psychology, methods of diagnosis and solution of social and organizational problems.

LICENCIATURA IN CHEMISTRY

CHEMISTRY FUNDAMENTALS	QC 101	Handle basic knowledge of chemistry, both phenomenologically as the elements and compounds in chemical reaction, explaining the behavior of matter based on atomic theory and other subsequent theories related to chemical bonds and the molecular geometry.
CHEMISTRY FUNDAMENTALS LAB	QC 105	Use laboratory materials and chemicals. Apply the knowledge gained to calibrate volumetric instruments and prepare solutions of different concentrations. Similarly, establish the performance of a chemical reaction based on the amounts of products produced.
INTRODUCTION TO CHEMICAL SCIENCE	QC 111	Understand and analyze current situation of chemistry in Mexico and the world and introduce the scientific field.
BASIC MATH	MA 111	Solve problems by using basic math concepts and techniques and efficiently operate the set algebra in solving problems of their professional practice. Algebra concepts used to construct graphs of functions related to current problems.
SECOND LANGUAGE I	ID	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	
GENERAL CHEMISTRY	QC103	Obtain a solid knowledge on the properties of material, its chemical characteristics and natural physical recovery of elements and compounds, as well as the treatment of chemical equilibrium and dynamic.
GENERAL CHEMISTRY LAB	QC 108	Get the necessary skills and use material to develop the skills required in a chemistry lab. Identify properties and reactions of elements and compounds that exclude carbon.
CALCULUS I	MA 130	Apply differential calculus in problem solving and decision making, through the solution of different exercises such as: determining the domain of a given function, finding the linear approximation of a function at a given point and drawing the graph of a function, determine its asymptotes, maxima, minima, and inflection points.
LINEAR ALGEBRA	MA 127	Handle the fundamental concepts of linear algebra. Also distinguish and solve different systems of linear equations.
SECOND LANGUAGE II	ID	

PROFESSIONAL WRITING	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
ORGANIC CHEMISTRY I	**QC 223**	Understand the different functional groups and structures of organic compounds and identify various organic reactions and their mechanisms. Also, properly handle the nomenclature, stereochemistry, structure and reactivity in acid-base processes.
ORGANIC CHEMISTRY LAB I	**QC 225**	Develop the necessary skills and identify the basic material required for any organic chemistry laboratory. Use material separation, purification and identification of organic substances. Apply all safety requirements for work in the laboratory.
INORGANIC CHEMISTRY I	**QC 202**	Analyze the implications of energy in the formation of chemical bonds, both atoms and molecules, as well as the forces supporting the molecular structure (highlights the various definitions of acids and bases and their relationship to the study of solution chemistry). Handle chemistry of transition metals and general properties of their compounds.
INORGANIC CHEMISTRY LAB I	**QC 207**	Apply complexation reactions in solution and recognize them for their properties. Experience the relative stability of some compounds. Observe reaction, structures and thermodynamic properties. Perform s group pectral identification.
EXPERIMENTAL RESEARCH I	**QC 211**	Apply the knowledge gained so far to solve real problems in a research laboratory.
CALCULUS II	**MA 132**	Master basic integration techniques, choosing the best method to solve an integral. Master its operation and applications, for example: Identify and sketch graphs of surfaces in space; Learn the techniques and rules of differentiation, to apply them to a function and interpret it geometrically and physically; Calculate differentials and tangent planes, and apply them to approximate the solution of a problem, Set up and solve extreme value problems; Calculate multiple integrals and use them to solve problems, etc
APPLIED STATISTICS	**AE 305**	Effectively apply data description methods and have a firm understanding of statistical inference methods in terms of estimation, hypothesis testing, experimental design, and linear models.
SECOND LANGUAGE III	**ID**	

PHYSICAL CHEMISTRY I	QC 231	Describe and develop the principles of physical chemistry, emphasizing those areas critical to chemical and biological sciences.
PHYSICAL CHEMISTRY LAB I	QC 236	Identify common experimental techniques to measure the basic thermodynamic constants and variables. Also, interpret graphs for information on thermodynamic parameters and evaluate the accuracy of their results based on error analysis.
ORGANIC CHEMISTRY II	QC 224	Identify the various mechanisms of ionic reaction of organic compounds and the chemistry of the functional groups from a practical point of view.
ORGANIC CHEMISTRY LAB II	QC 229	Apply the technique and skills necessary to carry out organic reactions with different functional groups. Identify the different ionic reaction mechanisms experimentation using organic reactions and theoretical knowledge spectroscopy for identification of reactants and products.
INORGANIC CHEMISTRY II	QC 203	Describe and develop the principles of physical chemistry, emphasizing those areas critical to chemical and biological sciences.
INORGANIC CHEMISTRY LAB II	QC 208	Identify common experimental techniques to measure basic thermodynamic constants and variables. Interpret graphs for information on thermodynamic parameters and evaluate the accuracy of their results based on error analysis thereof.
MECHANICS	FS 220	Identify the various mechanisms of ionic reaction of organic compounds and the chemistry of the functional groups from a practical point of view.
MECHANICS LAB	FS 221	Apply the technique and skills necessary to carry out organic reactions with different functional groups. Identify the different ionic reaction mechanisms experimentation using organic reactions and theoretical knowledge spectroscopy for identification of reactants and products.

ORDINARY DIFFERENTIAL EQUATIONS	**MA 227**	Solve first-order ordinary equations and non-homogeneous second-order differential equations by the methods of variation of parameters and indeterminate coefficients and by means of power series. Pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures. Obtain the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integer-differential equations
BIORGANIC	**QC 320**	Develop experiments to test the properties of periodic table elements of the s and p groups and their reactivity.
BIORGANIC LAB	**QC 325**	Identify and distinguish intuitively and analytically the phenomena of classical mechanics and place them according to the vision acquired in the course, and interpret the processes studied and translate them into the language of mathematics to quantify processes. Given the above compare everyday situations to abstract the phenomena studied in this course and solve basic problems on the content of the same.
ANALYTICAL CHEMISTRY	**QC 341**	Identify the principles of analytical chemistry, discovering how they are applied in chemistry and related disciplines, as well as in the life sciences and health.
ANALYTICAL CHEMISTRY LAB	**QC 345**	Develop basic analytical techniques and quantitative analytical chemistry work. Identify the steps in a method of analysis in a systematic and responsible manner, always seeking the accuracy and precision in their work.
BIOCHEMISTRY I	**QC 350**	Describe the structure, the physicochemical characteristics, interactions and function of biomolecules as well as the methodology used for study.
PHYSICAL CHEMISTRY II	**QC 332**	Describe and develop the fundamentals of solubility and behavior of ionic solutions Analyze the reaction mechanisms and treat equilibria at the interfaces, and the study of colloidal systems is emphasized.

PHYSICAL CHEMISTRY LAB II	**QC 335**	Describe the thermodynamic behavior of systems of two or more phases under the experimental production of the variables and parameters that allow us to study these systems. Also explain the reaction kinetics of homogeneous and heterogeneous systems.
EXPERIMENTAL RESEARCH II	**QC 310**	Apply the knowledge gained so far in solving real problems in a research laboratory.
ELECTROMAGNETISM	**FS 320**	Analyze electromagnetic phenomena. Solve exercises related to electric charge, electromagnetic field, electric potential, capacitance, resistance, Electric Circuits, magnetic induction, and electromagnetic circuits. Interpret electrical and magnetic phenomena and the combination of both, expressing them in mathematical form. Compare situations in daily life with the phenomena analyzed and solve basic problems on the topics discussed.
ELECTROMAGNETISM LAB	**FS 321**	Experimentally check the physical phenomena of electricity and magnetism through Laboratory Practices. Prove Maxwell's laws experimentally, as well as Faraday's induction effect
INSTRUMENTAL CHEMICAL ANALYSIS	**QC 342**	Identify the broad field of instrumental analysis techniques, so that you can develop a critical character when judging the accuracy and precision of experimental data. Discipline in the study and accountability in laboratory work associated with the course will give the student the means to shape these judgments.
INSTRUMENTAL CHEMICAL ANALYSIS LAB	**QC 347**	Identify various instrumental analysis methods available according to the particular characteristics of the sample.
ADVANCED ORGANIC CHEMISTRY	**QC 321**	Distinguishing heterocyclic compounds and terpene since many of them are found as such in nature and are the key to many biological processes. Also, identify Pericyclic, photochemical and apply them to everyday problems and apply their knowledge in solving practical problems in laboratory reactions.
BIOCHEMISTRY II	**QC 351**	Apply the knowledge gained in Biochemistry I to study metabolic pathways, their regulation, their interrelationships and organs or tissues in which they occur.
PHYSICAL CHEMISTRY III	**QC 333**	Describe and develop the principles of physical chemistry, with emphasis in the areas of chemical kinetics and electrochemistry giving an importance in chemical and biological sciences.

INTRODUCTION TO QUANTUM CHEMISTRY	**QC 334**	Understand the general basic knowledge of quantum theory and its most important advances and applications in the properties of atoms and molecules.
GENERAL STUDIES II	**EG**	
RESEARCH SEMINAR	**489**	Understand the methodology of bibliographic research, so that literature searches are performed on a chosen topic and the student critically reviews such information, determining its relevance, summarizing the information and presenting it in different formats: oral, poster and writing.
ADVANCED INORGANIC CHEMISTRY	**QC 402**	Describe the fundamental aspects of the synthesis, kinetics and reaction mechanisms of coordination compounds and understand the structure, reactivity and properties of the organometallic compounds, and finally discuss some aspects of descriptive chemistry of transition metals, their abundance and environmental and biological effects.
SURFACE PHYSICOCHEMISTRY	**QC 430**	Support and develop the principles of physical chemistry, emphasizing those areas of critical importance to the chemical sciences.
APPLIED SPECTROSCOPY	**QC 481**	Describe the theoretical foundations of methods of structural analysis. Analyze the most suitable for the structural analysis of a sample techniques. Describe and identify information that can give each of the various spectroscopic methods, and solve problems of varying magnitude, both particularly as relating various spectroscopic techniques.
COMPUTER CHEMISTRY	**QC 433**	Implement the concepts derived from quantum mechanics in the simulation of chemical structures and reactions numerically, allowing the study of chemical phenomena on computers and obtaining information on stable molecules, unstable intermediates and transition states.
GENERAL STUDIES III		
SOCIAL RESPONSIBILITY	**RS 498**	Reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way
ADVANCED ANALYTICAL CHEMISTRY	**QC 441**	Apply the principles of analytical chemistry, in recognition of different chemical species.

ADVANCED ANALYTICAL CHEMISTRY LAB	QC 445	Master the basic techniques of qualitative analytical chemistry. Run the steps in a method of qualitative analysis in a systematic and responsible manner. It will also identify the factors affecting the results in an analytical test.
SYNTHETIC ORGANIC CHEMISTRY	QC 421	Set the raw materials required for the synthesis of an organic molecule complex using the method of Retrosynthesis. Identify and implement the most suitable for the preparation of an organic compound from raw materials selected techniques. Distinguish and implement different strategies of organic synthesis. Solve synthesis of various organic substances.
GRADUATION PROJECT I	QC 496	Demonstrate the ability to integrate theoretical and practical knowledge acquired by the student throughout their studies, to solve a specific problem within the chosen orientation.
GENERAL STUDIES IV	EG	Monitor and defend the research conducted within the chosen orientation, ending with a written report of the work done.
GRADUATION PROJECT II	QC 497	Apply the principles of analytical chemistry, in recognition of different chemical species.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
ELECTIVES		
MATERIAL BALANCE	IQ 210	Develop a clear and systematic methodology to formulate and solve material balances for different processes.
ENERGY BALANCE	IQ 212	Formulate and solve energy balances for different processes
PROPERTY PREDICTION	IQ 312	Describe and develop equations of PVT properties and thermodynamic ideal and actual in homogeneous phase and heterogeneous phase pure compounds study of methods for the estimation and prediction of these properties from: experimental data, equations of state and the principle of corresponding states.
KINETICS AND HOMOGENEOUS REACTORS	IQ 407	Define general laws and principles related to any chemical transformation of one or more reactive substances in products, the concepts necessary to successfully design and operate chemical reactors where are carried out reactions between fluids reactants homogeneous, in the presence or not of a catalyst solution.
ENVIRONMENTAL CHEMISTRY	IQ 401	Present and organize relevant environmental chemistry information to design remediation systems and environmental protection.

FOOD CHEMISTRY	**IA 332**	Understand the fundamental principles of the main chemical changes that occur in food, deteriorating or benefiting them, as well as aspects of the functionality of the components and their influence on the physical, chemical, nutritional and organoleptic properties of food.
FOOD ANALYSIS	**IA 436**	Understand the main methods used to quantify the components of food in such a way that, from the understanding of their fundamentals, the student chooses the one that is most appropriate to make a certain determination in a given situation; make modifications without affecting the accuracy of the results; manage the data and results obtained.
FOOD MICROBIOLOGY I	**IA 230**	Describe and compare the structures of eukaryotic and prokaryotic cells. Also, learn to classify microorganisms according to their nutritional requirements and propose methods of isolation, culture, detection and enumeration for different types of microorganisms.
QUALITY CONTROL	**BQ 450**	Define and analyze the requirements testing laboratories (clinical analysis) that must be met to demonstrate that they operate the quality system, which are technically competent and can generate technically valid results.
FUNDAMENTALS OF GENETICS	**BL 310**	Distinguish the principles governing the inheritance of characters between generations, as well as the causes of genetic variation of living things
CELLULAR BIOLOGY	**BL 313**	Understanding the structure, organization, compartmentalization and cellular complexity needed to support vital phenomena at the level of unicellular organisms and multicellular organisms integration.
MOLECULAR BIOLOGY	**BL 321**	Demonstrate the relationship between structure and function of nucleic acids, the molecular mechanisms involved in the information flow and control complex information flow in prokaryotes and eukaryotes.
ANATOMY AND PHYSIOLOGY	**FA 310**	Apply prior knowledge to interpret the physiological processes of the major systems and appliances human body. Interpret normal or pathological conditions of the body and correlate with pharmacological treatment and clinical diagnosis.
GENERAL MICROBIOLOGY	**BL 335**	Establish and substantiate the basic knowledge and training in general microbiology to understand, interpret and analyze related to the world of microorganisms phenomena.

GENERAL PHARMACOLOGY	**FA 320**	Understand pharmacological knowledge about the general principles of drug action and integration of the knowledge obtained in Pharmaceutical Biochemistry and Organic Chemistry II.
PHARMACOGNOSY	**FA 330**	Describe the factors involved in the cultivation of medicinal plants, as well as those factors that alter the content of medicinal agents in plants. Outline the properties of the compounds from the primary metabolism of plants. Schematize the properties of the compounds from the secondary metabolism of plants. Identify test methods and evaluation of compounds from the primary and secondary metabolism of plants.
CLINICAL PHARMACOLOGY	**FA 342**	Apply the general principles of pharmacology at the current therapeutic assessing the choice and use of drugs according to the system on the body acting predominantly as its main therapeutic indications, drug interactions, side effects and contraindications. special emphasis is given to the mechanisms of action by means of which the drugs modify pathological processes as well as the undesirable effects they cause.
IMMUNOLOGY	**FA 380**	Describe and analyze the structure and function of molecules and cells involved in immune response in humans.
MEDICINAL CHEMISTRY	**FA 464**	Conceptually and operationally dominate Medicinal Chemistry with special reference in its action at the molecular, metabolic level, the structure-activity, pharmacokinetics and modification of molecular models to improve this. Analyze different families of drugs grouped according to their mechanism of action.
PROFESSIONAL SEMINAR I	**QC 490**	Apply the knowledge gained so far to solve real problems within a research group or industry of the country or abroad.
PROFESSIONAL SEMINAR II	**QC 491**	Students will acquire skills in handling instruments and laboratory materials. They will also be able to link the knowledge acquired in other subjects to solve a real problem. Moreover, resolve situations of adaptation to a new working environment.
SELECT TOPICS IN CHEMISTRY I	**QC 464**	Apply and relate the knowledge in a chemical sciences topic from a current point of view. This course is d an advanced seminar on a select chemical sciences topic.

SELECT TOPICS IN CHEMISTRY II	QC 465	Apply and relate the knowledge in a chemical sciences topic from a current point of view. This course is d an advanced seminar on a select chemical sciences topic.
SELECT TOPICS IN CHEMISTRY III	QC 466	Apply and relate the knowledge in a chemical sciences topic from a current point of view. This course is d an advanced seminar on a select chemical sciences topic.
SELECT TOPICS IN CHEMISTRY IV	QC 467	Apply and relate the knowledge in a chemical sciences topic from a current point of view. This course is d an advanced seminar on a select chemical sciences topic.

LICENCIATURA IN INTERNATIONAL RELATIONS

FORMATION OF STATE-NATION IN MEXICO	HI 109	Identify key historical processes that underlie the main features of the modern Mexican state.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
GENERAL STUDIES I	EG	
INTRODUCTION TO POLITICAL SCIENCE	PO 100	Apply the basic concepts and methods of political science to understand political phenomena that affect their lives and immediate surroundings.
INTRODUCTION TO INTERNATIONAL RELATIONS	RI 100	Distinguish the phenomena whose analysis is unique to international relations.
SECOND LANGUAGE I	ID	
GENERAL STUDIES II	EG	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.

GENERAL STUDIES III	**EG**	
POLITICAL PHILOSOPHY	**RI 114**	Apply the basic concepts and methods of political science to understand political phenomena that affect their lives and immediate surroundings.
RESEARCH TECHNIQUES	**RI 111**	Distinguish the phenomena whose analysis is unique to international relations.
SECOND LANGUAGE II	**ID**	
MEXICAN LEGAL SYSTEM	**RI 141**	Master the general rules of Mexican law to analyze its constitutional foundations and use the instruments of the Mexican public and private law.
HISTORY OF INTERNATIONAL RELATIONS	**RI 122**	Review and evaluate international relations processes to contextualize the objectives of its research agenda in different periods.
MICROECONOMICS I	**EC 106**	Analyze the economic markets modeling techniques through graphical analysis and demonstrate the implications of different market structures for economic efficiency, as well as with the policies that could potentially correct distortions. Develop economic intuition to understand the functioning of markets because of individual decisions of consumers and companies and solve problems of microeconomics from a geometric point of view.
MODERN POLITICAL THINKING	**RI 115**	Review the applications of political philosophy with contemporary problems undertaking similar efforts to build and test of political theories.
SOCIAL STATISTICS	**AE223**	Develop parameters to estimate or compare quantitative questions. Identify relevant statistical tests as a decision criteria for the respective parameter of the population. Use basic statistical computer tests and interpret their results. Evaluate sampling and statistical studies of other professionals to debate them or use their results in an optimal way for the development of business interests, public or private.
SECOND LANGUAGE III	**ID**	
PUBLIC POLICIES	**PO 201**	Combine knowledge of statistics, mathematics and its political and social context in exploring alternative solutions to public problems.

CONTEMPORARY WORLD HISTORY	RI 222	Review and evaluate formative historical processes of international institutions in which rested the stability of the international order since the war to date.
MACROECONOMICS I	EC 107	Identify and analyze theoretically (with analytical and graphical techniques) and empirically (by analyzing basic data) Critically, the main problems and macroeconomic phenomena.
COMPARED POLITICS I	RI 315	Analyze the four predominant models of democratic governance and evaluate its performance in different nations to which they gave rise.
GEOPOLITICS	RI 210	Master the theoretical and methodological fundamentals of geopolitics to apply to the analysis of international conflicts.
CONTEMPORARY MEXICAN POLITICS	RI 252	Analyze the processes, actors and institutions in contemporary Mexican politics to identify their influence on contemporary foreign policy of the Mexican state, and to establish a degree of convergence with global processes of democratization.
CANADIAN SOCIETY AND POLITICS	RI 328	Review the historical formative processes of contemporary Canadian society, as well as the impact of NAFTA on the identity, economy and politics of that nation.
INTERNATIONAL RELATIONS THEORIES	RI 214	Master international relations theories to apply them to the analysis of specific international problems.
INTERNATIONAL ECONOMIC POLICY I	RI 377	Master international relations theories to apply them to the analysis of specific economics and global policy problems.
INTERNATIONAL LEGAL SYSTEM	RI 242	Master the concepts, principles, sources and doctrines of the Public International Law and apply them to the analysis of contemporary international legal disputes.
COMPARED POLITICS II: POST-COMMUNIST COUNTRIES	RI 317	Know the origins and the birth of the Commonwealth of Independent States and the countries concerning Eastern Europe, their historical background and development.
SOCIETY AND STATE IN LATIN AMERICA	RI 224	Review the historical processes that affected the Latin American colonial societies and master the main explanatory theories of the nature of the dependence of Latin American countries on developed countries.
UNITED STATES SOCIETY	RI 335	Review the social, political, cultural and economic development of the United States to discuss the role this nation plays in the contemporary world system.

SUB-SAHARAN AFRICA	RI 434	Review the physical and anthropological environment conditions of this region and apply geopolitical theories to analyze future conflicts and challenges.
MEXICAN ECONOMY	RI 476	Master Mexican economy analysis to evaluate the role of Mexico in the world and its international relations.
INTERNATIONAL ORGANIZATIONS	RI 326	Master the objectives and structure of the various international organizations, especially the United Nations, and evaluate their performance in the face of specific problems.
UNITED NATIONS MODEL	RI 334	Evaluate the operations of international organizations, with special emphasis on the United Nations. Study the role commissions and the International Court of Justice play and emphasize the result of their performance against specific problems. Simulate of conflict and international negotiation.
CONTEMPORARY LATIN AMERICA	RI 311	Study the Latin American colonial societies and their relations with the European cities, the integration of indigenous elements and Hispanics in Latin American societies, the independence movements and the creation of national states. Identify incipient industrialization processes, failure and corresponding political structures.
MEXICAN FOREIGN POLICY	RI 261	Review and assess the political, economic and foreign policy doctrine of Mexico and analyze the changes experienced since independence to date.
UNITED STATES GOVERNMENT AND POLITICAL PROCESSES	RI 336	Review the US political process to identify its impact on the foreign policy of that country.
INTERNATIONAL NEGOTIATION	RI 415	Master trading theories and apply them in simulation exercises international negotiations.
INTERNATIONAL ECONOMIC POLICY II	RI 387	Apply theories of international political economy analysis to the specific processes of globalization.
MIDDLE EAST AND MAGREB	RI 432	Review and analyze the background and historical development of Islamic peoples, their religious and cultural foundations, its current political, economic and social.
INTERNATIONAL SECURITY SEMINAR	RI 428	Master international security theories and apply them to analyze critical security issues the twenty-first century.

LATIN AMERICAN FOREIGN POLICY SEMINAR	RI 424	Compare the foreign policies of Argentina, Brazil, Chile, Peru, Venezuela, Cuba and assess their impact on US and the European Union's foreign policy
SOCIAL RESPONSIBILITY	RS 498	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
UNITED STATES FOREIGN POLICY SEMINAR	RI 435	Master contemporary foreign policy of the United States to discuss the basis of their conduct in the international matters.
ASIA	RI 433	Review, analyze and compare socio-political regions of Asia three main processes: China, India and Japan.
EUROPEAN UNION	RI 411	Master the institutional structure of governance in the European region.
GRADUATION PROJECT I	RI 498	Develop a research project to meet the qualification requirements.
GRADUATION PROJECT II	RI 499	Students acquire a thorough understanding of the rigors and demands of building and sustaining academically defensible arguments, presenting original and critical ideas.
GENERAL STUDIES IV	EG	
GENERAL STUDIES V (CO-CURRICULAR)	EG	
SEMINARS		
INTERNATIONAL POLICY SEMINAR I	RI 487	Analyze the current problems and evaluate structural and cyclical factors. Thoroughly investigate an issue of international politics and identify its causes. Esquematizar sources. Process and evaluate the information obtained. Implement and report viable solutions.
INTERNATIONAL POLICY SEMINAR II	RI 488	Analyze the current problems and evaluate structural and cyclical factors. Thoroughly investigate an issue of international politics and identify its causes. Esquematizar sources. Process and evaluate the information obtained. Implement and report viable solutions.

CRITICAL ANALYSIS SEMINAR I	RI 489	Review, investigate and analyze international political phenomena and processes at regional level at a critical historical stage.

LICENCIATURA IN MULTICULTURAL RELATIONS

INTRODUCTION TO INTERNATIONAL RELATIONS	RI 100	Distinguish the phenomena whose analysis is unique to international relations.
CULTURE AND SOCIETY	AN 120	Master, identify and debate the fundamental concepts, as well as data and achievements of ethnological science, to discern, describe, analyze, and compare the great cultural diversity and similarities that characterize the social life of human communities.
OVERVIEW OF INTERNATIONAL BUSINESS ADMINISTRATION	NI 103	Learn an overview of the features, functional areas, tools, basic concepts and guidelines present in business administration. Analyze the importance of globalization, its origins, and the impact on businesses and how they manage when they enter the international arena.
GENERAL STUDIES I	EG	
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
GENERAL STUDIES II	EG	
SOCIAL PROBLEMS IN MEXICO	SO 180	Analyze the bases and dimensions of the various types of social problems facing Mexico and master the essential theoretical frameworks on poverty and social inequality; analyze the causes of violence and conflict, both political and domestic, as well as strategies and political actions used to address different types of problems.
PRINCIPLES OF ECONOMICS	EC 105	Develop the basic elements of economic analysis and understand its application in relation to contemporary economic phenomena.

SOCIAL STATISTICS	AE223	Develop parameters to estimate or compare quantitative questions. Identify relevant statistical tests as a decision criteria for the respective parameter of the population. Use basic statistical computer tests and interpret their results. Evaluate sampling and statistical studies of other professionals to debate them or use their results in an optimal way for the development of business interests, public or private.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
INTERNATIONAL RELATIONS THEORIES	RI 214	Master the theories of international relations to apply them to the analysis of specific international problems.
FUNDAMENTALS OF ANTHROPOLOGICAL THINKING	AN 202	Analyze the intellectual history of anthropological thought from Greek and Roman thinkers to the early emergence of the discipline in the 19th century.
BUSINESS COMMUNICATION	BA 105	Master verbal and nonverbal communication tools. Act as a communication agent achieving informative and persuasive achieving objectives in organizations' public relations.
FINANCIAL ACCOUNTING	FC 112	Analyze the different types of organizations and different financial statements to make proper decisions.
WORLD ETHNOLOGY	AN 211	Master the main cultural areas of the world and the fundamental socio-cultural traits associated with representative societies in each area.
SECOND LANGUAGE III	ID	
GENERAL STUDIES III	EG	

CURRENT TRENDS IN ANTHROPOLOGY	AN 254	Understand the history of socioanthropological ideas and thought, the development of ethnographic practice, analyzing the ideas of relationship between society and nature during the 20th century. Promote analytical capabilities and oral communication skills of students, for example, their ability to identify ideas and central arguments of a text, and comment and/or debate these in a coherent and understandable way. Finally, encourage written communication skills: the ability to organize one's ideas and present them professionally in grammatically correct prose.
MARKETING FUNDAMENTALS	MK 111	Analyze marketing elements in detail to develop marketing strategies, which include the target market analysis and marketing mix.
INFORMATION AND SOCIETY	CO 263	Diagnose the information disclosed by mass media to interpret the stereotypes of different social models presented.
GENERAL STUDIES IV	EG	
THIRD LANGUAGE I	ID	
GEOPOLITICS	RI 210	Master the theoretical and methodological fundamentals of geopolitics to apply to the analysis of international conflicts.
ANCIENT MESOAMERICA	AN 342	Create a framework for the different paradigms used in the study of the prehispanic past of Mexico; analyze the use of the pre-Hispanic heritage of his country; evaluate the relationship between the basis of empirical data and theoretical constructs about the emergence of complex societies in Mesoamerica and the main processes involved in the emergence of social inequality.
ORGANIZATIONAL BEHAVIOR	BA 201	Develop and understand the dynamics of people in organizations, to conduct themselves assertively, and thus contribute to organizational goals.
INTERNATIONAL COMMUNICATION	CO 337	Recognize the arguments in the international communication debates and distinguish the characteristics of communication between nations and cultures.
INTERCULTURAL EDUCATION AND HUMAN RIGHTS	ED 436	Recognize methodological principles and strategies of intercultural education and human rights in local, national and global programs. Develop dispositions and attitudes of tolerance and respect for cultural diversity.
THIRD LANGUAGE II	ID	

INTERNATIONAL LEGAL SYSTEM	**RI 242**	Master the concepts, principles, sources and doctrines of the Public International Law and apply them to the analysis of contemporary international legal disputes.
STATE, CULTURE AND NATIONALISM	**AN 315**	Master the theory of the creation of the state as a cultural process, and the historical-sociocultural building of a nation. Identify, explain, and indicate socio-cultural expressions, and debate the theories and practices implemented by the state around indigenous topics and those related to national integration of the various sections of the population.
HUMAN RESOURCES MANAGEMENT	**BA 211**	Analyze and apply the most important HR concepts and functions within organizations.
TERCER IDIOMA III	**ID**	
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
INTERNATIONAL ORGANIZATIONS	**RI 326**	Students will build knowledge of the historical, theoretical and institutional development of the discipline of international relations and is able to deepen this knowledge and apply it to the Analysis of the behavior of states in the international system from competences of Historical Analysis (1) , (2) from area studies, (3) political, (4) political-economic-international.
INTERCULTURAL ADMINISTRATION	**NI 340**	Identify the main cultural differences between blocs of countries, to be able to develop effective management strategies. Master international expansion strategies and understand their implications in the administrative processes of organizations.
COMMUNICATION FOR DEVELOPMENT AND SOCIAL CHANGE	**CO 491**	Design, implement and evaluate communication strategies for development and social change,duly substantiated conceptually and theoretically.
INTERNATIONAL NEGOTIATION	**RI 415**	Master trading theories and apply them in simulation exercises international negotiations.
HUMAN RIGHTS	**DE 386**	Know and study the evolution and powers of the institutions responsible for the protection and monitoring of human rights in Mexico and the world. Promote respect for human rights in the exercise of the profession. Clearly and objectively interpret the concept and content of human rights and promoting research into specific cases.

NGO'S AND SOCIAL TOPICS	ED 416	Identify the characteristics and strengths of NGOs as a key actor in civil society and make a diagnosis of social and educational needs of a particular case, by immersion in fieldwork.
GENERAL STUDIES V (CO-CURRICULAR)		
ELECTIVES		
ETHNOLOGY FIELD METHODS	AN 221	Identify a social situation and transform it into a research problem, creating relevant categories, relating identified aspects and social actors. Create a logically structured methodological approach and build a set of techniques and an ideal bibliography.
HISTORICAL MEXICAN ETHNOLOGY	AN 283	Master the historical development of indigenous Mexican people from the colonial era to the 20th century, analyzing their insertion into the Spanish colonialism, and developing ideas on the changes to the state from the Bourbon Reforms and Independence.
ETHNOLOGY SEMINAR I	AN 305	Master political, social and cultural concepts of the economic characteristics of a Mesoamerican region or one of the basic topics of ethnology.
ETHNOLOGY OF AMERICA	AN 310	Master the main elements of the culture and society of indigenous peoples of the Americas and cultural areas. Analyze the basic descriptions of the most representative groups in each region and its cultural achievements.
MODERN MEXICAN ETHNOLOGY	AN 312	Develop a solid foundation on ways of life, culture and social organization of indigenous groups of Mesoamerica and northern Mexico at the present time, studying their social human-environment relations, the linguistic situation, the economic, political operations of the main indigenous groups as well as religious and artistic aspects that characterize them. Analyze the position of ethnicity in national society, emphasizing the impact of this on the development of indigenous groups.
RURAL ANTHROPOLOGY	AN 325	Master the conceptual management of sociocultural characteristics of world peasant societies, especially those in Latin America. Compare, contrast and understand the theoretical and conceptual debates that have arisen around this analysis and their inclusion into capitalist economies.
PREHISPANIC ART AND ARCHITECTURE	AN 334	Identify the different styles in spatial and temporal terms; create a specific and detailed view of the symbolic systems used by different pre-Hispanic cultures in Mesoamerica, including the development of regional and "international" styles, specifying the historical significance of the traits and political-religious ideology; identify relevant literature from leading researchers who have contributed to the subject; define the intellectual

		history of the study of pre-Hispanic art; theoretical arguments relate to information.
ORIGINS OF CIVILIZATION	**AN 356**	Analyze data around the emergence of social inequality, the transition to agriculture, the impact of new technology and development of cities and states in Africa, Asia and Europe.
MYTH, MAGIC AND RELIGION	**AN 377**	Analyze the intellectual history of the scientific study of mythical, magical and religious beliefs, and build an appreciation of the similarities and differences of these phenomena among various human societies.
ETHNOLOGICAL THEORY	**AN 395**	Master the premises, arguments, contributions and limitations of theoretical currents in anthropological debate. Analyze, criticize and orally explain the ideas and central arguments of a text, and discern and debate with other classmates in a coherent and understandable way. Analyze, criticize and explain through the essay ideas and present them professionally in grammatically correct prose.
URBAN ANTHROPOLOGY	**AN 433**	Compare the approaches of the different currents in the field of Urban Anthropology and analyze the situation of the different stakeholders, and the interaction they have with the different urban areas.
APPLIED ANTHROPOLOGY	**AN 461**	Compare the different currents of applied anthropology and identify the possibilities of contribution from this area that can be done to solve social problems.
ANTHROPOLOGY, POLITICS AND ECONOMICS	**AN 465**	Master the classic ethnographies of economic and political anthropology. Identify and debate the different theoretical positions that anthropology has developed to study economic and political dimensions of indigenous societies worldwide.
CULTURAL HERITAGE	**AN 473**	Formulate archaeological values through the critical study and analysis of ethical codes both past and contemporary in this field. Identify the different interests and users of the archaeological heritage and assess their views on treating, holding and disposing of human remains, archaeological and historical sites, and other antiques. Develop an effective position to support and defend the preservation of cultural heritage and evaluate contemporary issues on ethical and legal issues in the context of professional archaeological practice.
GENDER ANTHROPOLOGY	**AN 475**	Analyze social and cultural issues from a gender perspective; establish gender criteria based on the analysis of multiple variables, diagnosing specific cases.
GRADUATION PROJECT I	**AN 494**	Develop a research project, including the formulation of the problem, question axis, objectives, theoretical discussion, methodology, time and resources.

CULTURAL ANTHROPOLOGY SEMINAR	AN 495	Analyze and debate select a topic related to a specific social problem or anthropological theory. The topic will be selected according with the competencies of different teachers.
GRADUATION PROJECT II	AN 497	Apply research design methodology; analyze and interpret the data obtained to write a professional thesis.
INTRODUCTION TO JOURNALISM	CO 122	Master the theoretical foundations of the journalistic work and the essential elements that make it up. Identify the origin and history of world journalism and distinguishing characteristics in Mexico.
PRODUCTION OF JOURNALISM FORMATS	CO 231	Demonstrate conceptual mastery of journalistic genres and put them into practice by writing with professional standards.
NEWSPAPER WRITING AND STYLE	CO 312	Demonstrate conceptual mastery of journalistic genres and put them into practice by writing with professional standards.
ORGANIZATIONAL COMMUNICATION	CO 341	Design, demonstrate and master the processes, features and variables that make up the communication in organizations
COMMUNICATION AND ORGANIZATIONAL DEVELOPMENT	CO 367	Master the main concepts related to organizational development. Apply the concepts through concrete analysis in an institution.
PHOTOJOURNALISM WORKSHOP	CO 412	Produce high quality photographs for publication in newspapers and magazines and recognize the theoretical bases of the photojournalistic work.
TYPES OF INFORMATION	CO 417	Master the techniques and style used in the preparation of informative journalistic pieces.
INVESTIGATIVE JOURNALISM	CO 419	Know and properly use the techniques and strategies of investigative journalism in the preparation of notes and reports.
OPINION PIECES	CO 429	Master the techniques and style used in writing opinion pieces, through the constant preparation of articles, editorials, columns and an interpretive report.
ORGANIZATIONAL COMMUNICATION RESEARCH	CO 441	Master the design of social research and the procedures and techniques used to evaluate two of the most important aspects of organizational communication: organizational culture and working environment.

COMMUNICATION AND MARKETING	CO 465	Master the conceptual management principles and origins of social marketing. Recognize the relationship of social and commercial marketing. Apply the principles of marketing communication campaigns.
DESIGN AND EVALUATION OF COMMUNICATION PROJECTS	CO 477	Based on the integration of knowledge and skills acquired during the previous semesters, students will be able to diagnose a social problem and develop a professional communication project to contribute to its solution.
GRADUATION PROJECT I	CO 496	Propose a comprehensiveproject where the knowledge acquired throughout their studies is put into practice.
GRADUATION PROJECT II	CO 497	Conclude the research work started Graduation Project I and submit the final product.
MICROECONOMICS I	EC 106	Analyze economic modeling techniques of markets through the graphic study and demonstrate the implications of different market structures for economic efficiency as well as policies that could potentially correct the distortions. Develop economic intuition to understand the functioning of markets because of individual decisions of consumers and businesses and solve problems of microeconomics from a geometrical point of view.
MACROECONOMICS I	EC 107	Learn to identify the main problems and macroeconomic phenomena and develop the ability to analyze theoretically (with analytical and graphical techniques) and empirically (by analyzing basic data) critically.
MARKET RESEARCH	MK 220	Specify and provide accurate and relevant information to reduce uncertainty in decision-making. Describe the importance of market research as an essential tool of marketing organizations. Use the basic guidelines to develop research and measurement methods to study problems related to the marketing of goods and services.
ECONOMIC GEOGRAPHY AND DEVELOPMENT EXPECTATIONS	NI 270	Identify the historical dimensions of global change and the processes of globalization and regionalization. Understand the main theoretical perspectives of international relations to analyze globalization and regionalization. Students will also learn economic trade theories and how world development institution's function, trying to create a new global and regional atlas to compare the new poles.
GLOBAL BUSINESS ENVIRONMENT	NI 310	Analyze the international environment and master the concepts, terms and theories that serve as an introduction to subsequent courses.
INTERNATIONAL BUSINESS COMMUNICATION	NI 363	Develop the student's English communication skills (written, verbal and nonverbal) within a context of international business. Apply theoretical knowledge through workshops, and

		presentations. The exercises are performed within a business context and are relevant for today's international business.
INTERNATIONAL LOGISTICS	**NI 380**	Understand the importance of logistics and its main components to integrate them into a planning, organization and efficient control process internationally.
INTERNATIONAL MARKETING	**NI 390**	Make students develop a global perspective of markets, thus becoming aware of the growing opportunities and challenges in international business. The student will acquire the necessary tools to diagnose the global environment to develop marketing strategies and implement these skills through the development of an international marketing plan.
ETHICS AND TRANSPARENCY IN BUSINESS: LATIN AMERICA AND THE WORLD	**NI 391**	Analyze "ethical" decisions of organizations, according to classical and contemporary knowledge on the subject, and measure their impact on business.
INTERNATIONAL HUMAN RESOURCES MANAGEMENT	**NI 481**	Identify key decision areas in International Human Resource Management in an international context. Determine the problems of this function and propose solutions to them.
INTERNATIONAL NEGOTIATION STRATEGIES	**NI 494**	Develop intercultural skills and strategic knowledge to intervene effectively in negotiating international trade agreements and alliances between companies.
GRADUATION PROJECT I	**NI 498**	Write a research project that creatively solves a problem.
GRADUATION PROJECT II	**NI 499**	Prepare the final document of the graduation project under the guidance of a professor. Oral presentation and explanation of the document before a jury.
MODERN POLITICAL THINKING	**RI 115**	Review the applications of political philosophy with contemporary problems undertaking similar efforts to build and test of political theories.
SOCIETY AND STATE IN LATIN AMERICA	**RI 224**	Analyze historical processes that affected Latin American colonial societies and are the main explanatory theories of the nature of the dependence of Latin American countries on developed countries.

CONTEMPORARY LATIN AMERICA	RI 311	Analyze the Latin American colonial societies and their relations with the European metropolis, the integration of indigenous elements and Hispanics in Latin American societies, the independence movements and the creation of national states. Identify incipient industrialization processes, failure and corresponding political structures.
CANADIAN SOCIETY AND POLITICS	RI 328	Analyze historical formative processes of contemporary Canadian society, and the impact of NAFTA on identity, economics and politics of that nation.
UNITED STATES SOCIETY	RI 335	Review the social, political, cultural and economic development of the United States to discuss the role that this nation plays in the contemporary world system.
EUROPEAN UNION	RI 411	Master the institutional structure of governance in the European region.
MIDDLE EAST AND MAGREB	RI 432	Analyze the background and historical development of Islamic peoples, their religious and cultural foundations, its current political, economic and social.
ASIA	RI 433	Analyze and compare socio-political regions of Asia three main processes: China, India and Japan.
SUB-SAHARAN AFRIA	RI 434	Review the conditions of the physical and anthropological through that region and apply theories to analyze geopolitical conflicts and challenges in the future.
GRADUATION PROJECT I	RI 498	Develop a research project to meet the qualification requirements.
GRADUATION PROJECT II	RI 499	Conclude the research project.

LICENCIATURA IN THEATER

ACTOR TRAINING I	TE 111	Master the foundations of actor training.
ACTING TECHNIQUES I	TE 112	Master the basic techniques of acting through body and verbal language in the performing arts.
INTRODUCTION TO THEATER	TE 120	Understand the origins and evolution of theater as art and social manifestation. Distinguishing the various theatrical forms corresponding to different cultures. Identify the roles of participants in the theatrical creation. Organize a file theatrical terminology.

SCENERY FUNDAMENTALS	TE 131	Recognize the basic elements of the stage, stage design and lighting as applied in the design of space for project staging.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
ACTOR TRAINING II	TE 115	Develop the voice in terms of placement, projection, tessitura and resonation from a personalized training. Establish the link with music and organize participation in ensembles.
ACTING TECHNIQUES II	TE 116	Apply knowledge concerning the language of action. Identify emotions under the circumstances given. Relate the process of emotional expression through improvisations.
HISTORY OF THEATER I	TE 117	Analyze plays and theatrical theories from the classical Greek period to the classical French theater, taking into account the dramatic and theatrical principles that its creation and distinguishing genres and styles in which they are located. Review some of the conditions of representation and the practice stage in each period.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
ART, HISTORY AND CULTURE	AS 137	Interpret the elements of the history of art under the influence originates with political, social, cultural and economic changes in world history and be able to apply the theoretical foundations of his art projects.
GENERAL STUDIES I	EG	
ACTOR TRAINING III	TE 211	Master physical-vocal training in building a character.

ACTING TECHNIQUES III	TE 212	Mastering tools to face with greater resources the "Scenic Practice" processes and future life as theater professionals.
THEATER I	TE 221	Identify and understand the technical and historical-social course of the performance, from its origins to the present rituals and recognize the different trends of creation in this area.
HISTORY OF THEATER II	TE 217	Analyze plays and theatrical theories since the eighteenth century until the end of the twentieth century, taking into account the dramatic and theatrical principles that its creation and distinguishing genres and styles in which they are located. Review some of the conditions of representation and the practice stage in each period.
MEXICAN THEATER I	TE 225	Analyze the monographic tour of the theater in Mexico from the characteristics of the theatricality of the indigenous peoples of Mexico before the arrival of European culture as well as the presence and evolution of forms of theatricality in the scenic practice it is introduced from the Spanish colonization in New Spain from the XVI century until the end of the eighteenth century, in both its theatrical and dramatic look.
SECOND LANGUAGE III	ID	
ACTOR TRAINING IV	TE 215	Master the subtleties in the work of the body and the voice, the relationship between them and their applications in the achievement of the "character density".
ACTING TECHNIQUES IV	TE 216	Demonstrate how a character is constructed, using updated techniques.
SCENIC PRACTICE I	TE 214	Apply the experience achieved so far with acting techniques and workouts from a first assembly within the program. Develop minimum use of resources to accentuate the acting performance within a more complex pattern in which involved other characters, and above all a conceptual unitary concept of staging, but it's not a very complex sophisticated result or proposed in its production.
THEATER II	TE 222	Create your own analysis from the categories and main methodological approaches of dramatic text analysis.
MEXICAN THEATER II	TE 226	Identify the characteristics and objectives of stage practice in Mexico since the beginning of the nineteenth century to the present: conditions of representation, types of stage space, forms of production and organization, training of the theater artist, dramaturgy, evolution of aesthetic forms of staging.

INSTRUMENT I	**MU 131**	Play a musical instrument with correct technique and master exercises and small works in armor of two sharps and two flats.
ACTOR TRAINING V	**TE 311**	Distinguish the context of representation through three paradigmatic styles whose wisdom significantly intervenes in history through the art of the actor.
ACTING TECHNIQUES V	**TE 312**	Prepare the technical acting part of the stage montage that takes place in the Practice II course. Create the possibility of joining a montage that meets greater creativity challenges
SCENIC PRACTICE II	**TE 313**	Create a theatrical production and various stage performances.
THEATER III	**TE 323**	Analyze the theoretical foundations of a theater representation. Apply the theoretical bases of the show and the trends of contemporary staging.
THEATER PRODUCTION WORKSHOP I	**TE 333**	Distinguish the basic elements of the stage area and scenery in a staging as well as the principles for the design and implementation of these in a specific project.
DRAMA WORKSHOP I	**TE 335**	Apply the principles of dramatic creation from the Aristotelian concepts through theoretical and practical exercises as a fundamental tool in the practice of acting and stage direction.
INSTRUMENT II	**MU 132**	Execute major and minor scales on a musical instrument with the correct technique and master exercises and musical works that expand the initial level of the student. Know the style of a baroque work and a classic work and be able to interpret it on the instrument.
ACTOR TRAINING VI	**TE 315**	Develop the actor's disposition regarding the knowledge acquired through the previous series of five trainings and intensify the solution of personal difficulties. Verify the necessary disposition of integration to the techniques and practices. Develop capacities from a personal check-up per student related to perfecting the degree of body availability in all its instances.
ACTING TECHNIQUES VI	**TE 316**	Link and technically support assembly Practice III. Develop a space that is technically fit assembly requirements.

SCENIC PRACTICE III	TE 317	Develop creativity to incorporate the experience staging.
THEATER PRODUCTION WORKSHOP II	TE 334	Distinguish the origins, evolution, social function, aesthetic, implementation techniques and materials of the suit, makeup and theatrical lighting.
DRAMA WORKSHOP II	TE 336	Apply the dramatic writing of avant-garde theater and its proposals through theoretical-practical concepts. Identify the theater of the absurd and its alternatives from the historical-cultural processes and the affectation of the psyche and human behaviors of the 20th-21st century.
GENERAL STUDIES II	EG	
ACTOR TRAINING VII	TE 411	Understand the technical procedures for the radio, film, television and video means to achieve basic knowledge regarding the different applications that must meet the actor in these media.
ACTING TECHNIQUES VII	TE 412	Understanding the acting work in radio, film, television and video.
THEATER PEDAGOGY I	TE 421	Understand the aesthetic foundations, educational and teaching for the use of the theater at different educational levels pre-university. Design useful theater games as a form of artistic expression, personal and social knowledge and as an aid in the teaching-learning process.
THEATER DIRECTION I	TE 431	Master components and theoretical foundations in the stage direction for engaging the viewer in the staging.
GENERAL STUDIES III	EG	
SOCIAL RESPONSIBILITY	RS 498	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way.
STAGING WORKSHOP	TE 437	Apply the staging process. Identify identity links with a proposal from its indirect formulation and join shareable experiences where the components established for the entire process are generated and organized. Build a level of consistency that allows later to define the score of the performance.
STAGING	TE 438	Apply a scenic assembly and locate a center of energy that integrate and manifest a representable result.
THEATER PEDAGOGY II	TE 422	Apply knowledge of the acting performance pedagogy at the level of higher education.

THEATER DIRECTION II	TE 432	Develop creativity with scenic elements to implement a staging quality.
GRADUATION PROJECTI	TE 498	Develop research platform necessary for the thesis project.
GENERAL STUDIES IV	EG	
GENERAL STUDIES V (CO-CURRICULAR)	EG	
CULTURAL MARKETING	MK 322	Understand and apply performing arts and other disciplines options, strategies, methodologies, techniques and materials for the process of design, planning, production, financing, distribution, promotion, execution and development of scenic projects, to combine theoretical aspects with the technical and practical.
GRADUATION PROJECT II	TE 499	Master the development of their research topic and get the most rigorous professional examination.
ELECTIVES		
ADVANCED AUTHOR SEMINAR	TE 427	Distinguish some of the significant aspects of the historical evolution of Mexico in the twentieth century and, in parallel, the modes of evolution of dramaturgy and staging, and their interests in this period, specifically by reading, analysis and interpretation of some dramatic, narrative and poetic works of Rodolfo Usigli.
ADVANCED CURRENT OR PERIOD SEMINAR	TE 428	Distinguish some of the significant aspects of the historical evolution of Mexico in the second half of the twentieth century and, in parallel, the modes of evolution of dramaturgy and their interests in this period, through reading, analysis and interpretation of some works dramatic.
ADVANCED THEORY AND CRITICISM SEMINAR	TE 429	Analyze and discuss the latest theoretical and critical research lines related to theater.
ADVANCED STAGING SUPPORT SEMINAR	TE 430	Distinguish space as a technical and conceptual totality in which the arts of the face develop as aesthetic-expressive languages. Design themes in this great problem that encompasses issues that are linked to various disciplines: architecture, set design, visual arts and theater. Receptivity to implement the scenic phenomenon in general. Develop the ability to observe and analyze staging and the relationship between architecture, set design and stage space. Dominate the stage space through exercises involving perception, body, time and movement. Develop a practical project where apply lessons learned in the course (dramatization proposal through drawings, plans, models, virtual model or address and/or performance of a scene). The presentation of the projects will be open to the public.

ADVANCED CULTURAL MANAGEMENT AND STAGING SEMINAR	TE 433	Develop creativity in designing a project of cultural management.
ADVANCED DRAMA WRITING SEMINAR	TE 434	Relate the fundamental Western poetics of dramatic writing and apply theories dramatic, composition, reading and discussion of a dramatic exercise.
ADVANCED ACTING OR THEATER DIRECTION SEMINAR	TE 439	Understand theoretical and practical aspects concerning any concept, style, period or acting school or theater director whose values are recognized.
DANCE TECHNIQUE I	TF157	Develop basic techniques for proper body alignment through exercise center
CONDITIONING I	TF155	Develop skills that support complex neuro-muscular coordination. Handle stretching techniques, strength, flexibility and relaxation muscular-skeletal
CONTEMPORARY DANCE I BEGINNER	TF161	Master the movements of contemporary dance technique through the execution of sentences under consideration of the level I beginner, work in parallel position
CONTEMPORARY DANCE II BEGINNER	TF162	Analyze and develop the movements of contemporary dance technique, by executing sentences object of study beginner level II, in the work of body positions
BALLET I BEGINNER	TF141	Analyze the movements of Classical Ballet technique, by executing steps under consideration of the level I beginner, at work half a point
BALLET II BEGINNER	TF142	Dominate the movements of the Classical Ballet technique in its simplest forms, by executing steps object of study beginner level II at work half a point, correctly using space

LICENCIATURA IN INFORMATION TECHNOLOGY AND BUSINESS

INTRODUCTION TO ADMINISTRATION	BA 100	This course will study the theory of the Administrative Process Harold Koontz and see that it is interesting and practical value, but that does not help much to understand the complex world of business. In short, during the theory of the administrative process will be discussed, they will define their strengths and weaknesses and some theoretical alternatives that can solve these deficiencies will be studied.
BUSINESS MATH	MA 117	Demonstrate that uses mathematical concepts and techniques that allow solving problems of an economic, administrative, accounting and social sciences nature and efficiently operate the algebra of sets in solving problems of their professional practice.
INTRODUCTION TO INFORMATION TECHNOLOGIES	IS 102	The student will have the ability to handle most of the concepts and definitions of information technologies, understanding its operation and the environment in which they are used. The student may associate general theoretical concepts applied to current information technologies.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	
SECOND LANGUAGE LABI	ID	
INTRODUCTION TO INFORMATION TECHNOLOGY MANAGEMENT AND BUSINESS	TI 100	Students will gain an insight into the application fields of undergraduate and explore the links between social and technological processes associated with the use of information and knowledge in organizations
ALGORITHMIC SOLUTIONS	IS 102	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java

BUSINESS CALCULUS	MA 135	Analyze and use the differential and integral calculus techniques to solve classical optimization and other economic-administrative, accounting and social sciences problems for one or more variable functions.
GENERAL STUDIES I	EG	
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
SECOND LANGUAGE LAB II	ID	
MARKETING FUNDAMENTALS	MK 111	This is an introductory marketing course that covers the general aspects of this area. The definition and orientation of marketing is analyzed in detail at the beginning of the course to be used later in the development of marketing strategies, which include target market analysis and marketing mix.
STATISTICAL ANALYSIS	AE 242	Train the student to make decisions by using the most common methods to analyze and interpret data through extraction, recognition, classification, description, presentation, and inference based on theoretical and practical foundations to understand, use, compare and reorganize information.
DATA STRUCTURES I	IS 117	The student will gain the ability to design and program the object-oriented paradigm. They know and apply design techniques and notation UML (Unified Modeling Language) and Java programming language. They will be studied and handled the main mechanisms for creating, maintaining and search for information on static data structures.
PRINCIPLES OF MICROECONOMICS	EC 201	Master the basics of microeconomic analysis, identifying their use and representing contemporary economic phenomena.
SECOND LANGUAGE III	ID	
SECOND LANGUAGE LAB III	ID	

LEGAL BUSINESS FRAMEWORK	DE 332	The student will master how acts of trade and specialization are regulated and the rules applicable to merchants, credit, societies and fundamental aspects in labor matters that yield you a general legal view in the scope of business.
ORGANIZATIONAL BEHAVIOR	BA 201	Develop and understand the dynamics of people in organizations, to conduct themselves assertively, and thus contribute to organizational goals.
FORECASTING METHODS	AE 265	Master conceptual and operational management models and multiple linear regressions. Identify the type of forecasting model used to solve problems in companies, applying the best forecasting method for real problem. Design and usecomputer software using templates.
STORAGE METHODS	IS 215	Manipulat files with different tools and devices also must be able to analyze the methods of storage and retrieval of information that are appropriate to store, modify, view and order.
SOFTWARE ENGINEERING	IS 323	At the end of the course the student knows and will use the necessary methods to build quality software that works in real situations, following a formal development process.
GENERAL STUDIES II	EG	
PRINCIPLES OF MACROECONOMICS	EC 202	Master the basics of macroeconomic analysis, identifying their use in describing contemporary economic phenomena.
FINANCIAL ENVIRONMENT OF BUSSINESSES	FC 440	At the end of the course, the student is able to properly interpret accounting information and use it as a basis for quantitative decisions.
DECISION MODELS I	AE 270	The student will be able to: 1. Master the conceptual management of linear programming models. 2. Identify the type of linear programming model used for problem solving in industry and enterprise. 3. Solve real linear programming problems in marketing, finance, production management, among other areas. 4. Use computer packages for solving linear programming problems and for the analysis and interpretation of results.

DATABASES	**IS 341**	Use Database Management Systems (DBMS) in information management. Implement internal and external functions of a DBMS and properties of its execution model. Being able to use a DBMS for building information systems.
WEB APPLICATIONS	**IS 302**	The student will have the ability to design the structure and organization of systems operating on the Web, understanding the concepts of design and implementation. The student will have the ability to use programming languages, as well as specific tools for programming on the Web.
GENERAL STUDIES III	**EG**	
INFORMATION MANAGEMENT	**BA 230**	Assess the strategic importance of information technology in organizations and develop the skills to use it as support in operations, decision-making and competitive advantage of organizations.
INVESTMENT PROJECTS	**FC 463**	Provide the student the tools and methods to evaluate investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk. evaluation methods considering market factors, technical, administrative, legal, financial, economic and social are provided. Giving greater emphasis to financial and economic study.
OPERATIONS MANAGEMENT	**BA 350**	The student will acquire theoretical and practical knowledge of different operation managament areas. The student will master different areas of operations management and troubleshooting within a management context.
LEADERSHIP	**BA 401**	Identify and learn in depth the leadership styles best suited according to the type of organization and develop the skills necessary to deal appropriately in management personnel to create and manage teams that allow to solve related problems with resources humans.
SOFTWARE ARCHITECTURE	**IS 303**	Develop the ability to design the structure and organization of a software system in general. Apply theoretical concepts of object-oriented design for implementing a computer system that solves a specific problem.
GENERAL STUDIES IV	**EG**	

INFORMATION MANAGEMENT II	**BA 330**	Understand the key elements and technologies of E-Business and develop the skills to apply Internet technologies in company processes.
BUSINESS STRATEGIES	**BA 410**	Students will implement and develop the main conceptual, methodological and technological tools for organizational strategy.
SUPPLY CHAIN	**BA 450**	Design, operate and improve a company's supply chain, maintaining the system up to date in lieu of advancing technology. Solve problems within a management context, especially in relation to the interaction of the company with its suppliers and consumers as well as to improve the performance and quality of supplies and the distribution of products or services.
BUSINESS DEVELOPMENT	**BA 400**	The student will know the main features of micro, small and medium enterprises (SMEs); and the attitudes and skills of entrepreneurs. Develop the skills to make appropriate decisions and sufficient to establish a new business.
NETWORKS AND TELECOMMUNICATIONS	**IS 326**	Teaching basic and advanced networking concepts such as design, administration and management of telecommunications networks and systems. Also, apply Information Technology and link fields related to their specialty.
NETWORKS AND TELECOMMUNICATIONS LAB	**IS 327**	Complement the theoretical knowledge acquired in the Networking and Telecommunications I course by experimental verification of the behavior of different network devices. Also, apply Information Technology and link fields related to their specialty for the design, administration and management of telecommunications networks and systems.
ORGANIZATIONAL CHANGE	**BA 411**	At the end of the course, the student will understand the concepts of organizational change and development and will have the necessary tools to effectively manage the social changes occurring in organizational systems and subsystems.
KNOWLEDGE MANAGEMENT	**BA 430**	Students appreciate the strategic importance of knowledge in organizations, and develop skills to promote their creation, capture, encoding, storage and use.

SOCIAL RESPONSIBILITY	RS 498	Students will reflect on their learning at a professional, social and civic level, through the development of a social project and pedagogical monitoring of their actions, so they will learn professionally and humanely andn will help them to be a professional capable contributing to social problems in a responsible and critical way
BUSINESS SIMULATION	BA 420	Based on their experiences with simulation games and business simulations, students will develop the ability to analyze management problems based on modeling and simulation thereof.
HUMAN-COMPUTER INTERACTION	IS 438	At the end of the course the student will know the importance of designing the interaction between users and computer systems, identify different paradigms of human-computer interaction and design may apply techniques and evaluation of user interfaces.
PROJECT MANAGEMENT	BA 460	That students will know how to manage projects effectively and appropriately through a complete and consistent methodology, valid for any type of project, Including organizational, technical and human aspects.
INFORMATION SECURITY	IS 305	Analyze the problem of security and present their implications in the management of computer systems and information. Learn the basics of computer security techniques and to identify, evaluate and use existing technology.
GRADUATION PROJECT I	TI 498	The student will prepare a proposal for a project under the guidance of an advisor. This proposal will be defended before a jury, who will evaluate the proposal to pass to the next stage.
GRADUATION PROJECT II	TI 499	The student will prepare a formal report as project under the guidance of an advisor. This report will be defended before a jury who will evaluate it to grant the degree.
GENERAL STUDIES V (CO-CURRICULAR)	EG	
ELECTIVES		
BUSINESS ECONOMICS	BA 412	Students will gain knowledge of the tools and economic models used to analyze the structure and human resources of the company.

TRAINING AND DEVELOPMENT	**BA 415**	The course enables students to acquire knowledge in the techniques of training staff and allows you to gain skills to optimize and develop human resources in companies.
CONSULTING	**BA 417**	The course examines and analyzes the practice of consulting organizations. It also describes the necessary operations to understand and be able to use the student tools and consulting models, to intervene and plan for changes in companies in the current context of globalization.
SERVICE MARKETING	**MK 216**	The course provides students with a focus on planning and using marketing strategies for service businesses. They will analyze service organizations and adjust marketing goals and strategies accordingly.
NEW BUSINESS APPROACHES	**HR 420**	The purpose of this course if for students to identify and analyze business methods in the hospitality industry. Outline the conceptual and operational framework related to each business. Address and debate issues related to each business focus and develop solutions. Determine which is the best business alternative in each situation.
DATA STRUCTURES II	**IS 211**	Study and manage the main data structures and mechanisms to create and maintain complex data structures using a programming language object oriented.
DATABASE MANAGERS	**IS 304**	Know the basics of advanced topics in drivers database systems. The course covers data modeling from the semantic point of view and object-oriented. It also covers fundamental aspects of distributed databases, object database, and interoperability issues in databases on the WWW. Other new technologies in databases will be briefly introduced.
INFORMATION RECOVERY	**IS 346**	Identify the main problems associated with the use of large collections of data, particularly semi-structured and unstructured: modeling, storage, retrieval, and display question. It will study and use of tools aimed at mass access to information and information management via web experience.

DIGITAL LIBRARIES	BC 450	Recognize the multidisciplinary area of digital libraries as the study of virtual spaces for access, use, generation and dissemination of knowledge, and create innovative projects within it.
MULTIMEDIA DATABASES	IS 448	Familiarize students with the characteristics of multimedia data and sensitize them to the issues to consider when multimedia data is managed. Also, present the main functions of multimedia systems, their differences and their uses.
GEOSPATIAL DATABASES	IS 494	At the end of the course, the student will be able to know the related terminology with geographic information systems, manage related technologies, disciplines base, the nearest applications as well as the opportunity to participate in projects of local interest and a Social impact.

LICENCIATURA IN KNOWLEDGE TECHNOLOGIES

INFORMATION RESOURCES	BC 112	Develop the skills necessary to access, validate, share and use information as a tool for research, decision-making and generating proposals for personal improvement, professional and social.
GENERAL STUDIES I	EG	
BUSINESS FUNDAMENTALS	BA 111	Analyze the theory of the administrative process, define its strengths and weaknesses and study some theoretical alternatives that can solve such deficiencies.
BUSINESS MATH	MA117	Demonstrate that they use mathematical concepts and techniques that allow him to solve problems of an economic, administrative, accounting, and social science nature and efficiently operate the algebra of sets in solving problems typical of his professional practice. Likewise, use the concepts of algebra to construct graphs of functions related to current business problems.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID	

KNOWLEDGE TECHNOLOGIES TOPICS	BC 100	
KNOWLEDGE ORGANIZATION	BC 210	Design document classification and cataloging projects for the preservation and recovery of information in organizations in order to make their management more efficient.
ALGORITHMIC SOLUTIONS	IS 112	Develop and apply algorithms as a strategy to solve problems and as a basis for proposing and designing complex computer programs and systems.
ALGORITHMIC SOLUTIONS LAB	IS 116	Relate algorithmic concepts with their equivalents in high-level programming. This course is the complement to the Algorithmic Solutions course, putting into practice the reasoning skills and method development acquired there. The programming language in this case is Java
ORGANIZATIONAL BEHAVIOR	BA 201	Develop and understand the dynamics of people in organizations, to conduct themselves assertively, and thus contribute to organizational goals.
SYMBOLIC LOGIC	MA 122	Establish the basic elements and language of logic to prove the truth or falsity of logical propositions. Analyze arguments in terms of its consistency and demonstrate its validity. Try categorical arguments using truth tables, Venn diagrams and formal proof of validity. Analyze arguments involving fallacies, identify its type and the best way to correct them.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.
SECOND LANGUAGE II	ID	
INFORMATION OBJECTS	BC 230	Identify the role and importance of management information objects (physical and digital) and social entities facilitators of access to information and the preservation of knowledge, linking the interrelationship between educational, social, political and cultural systems and management and engineering knowledge.

DATA STRUCTURES I	IS 117	Design and programm with object-oriented software. Apply design techniques and notation UML (Unified Modeling Language) and Java programming language. Understand and manage the main mechanisms to create, maintain and search for information on static data structures.
PRINCIPLES OF ECONOMICS	EC 105	Develop the basic elements of economic analysis and understand its application in relation to contemporary economic phenomena.
MATH AND STATISTICS	MA 124	Perform descriptive statistics: numerically and graphically, hand and StatView statistical package such as SPSS and.
GENERAL STUDIES II	EG	
SECOND LANGUAGE III	ID	
INFORMATION SERVICES	BC 330	Identify the role and importance of management information services such as social entities facilitators of access to information linking the interrelationship between educational, social, political and cultural knowledge and technologies and management systems.
HUMAN-COMPUTER INTERACTION	IS 438	Master and design applications for interaction between users and computer systems. Identify different paradigms of human-computer interaction and applying design techniques and evaluation of user interfaces.
INFORMATION MANAGEMENT	BA 230	Assess the strategic importance of information technology in organizations and develop the skills to use it as support in operations, decision-making and competitive advantage of organizations.
SOCIAL STATISTICS	AE 223	Develop parameters to estimate or compare quantitative questions. Identify relevant statistical tests as a decision criteria for the respective parameter of the population. Use basic statistical computer tests and interpret their results. Evaluate sampling and statistical studies of other professionals to debate them or use their results in an optimal way for the development of business interests, public or private.
GENERAL STUDIES III	EG	
KNOWLEDGE NETWORKS	BC 300	Identify the social aspects of building knowledge and relate them to the basic concepts of social epistemology. Apply these concepts to model social networks of knowledge-based information technologies.

ORGANIZATIONAL LEARNING	BC 340	Analyze a learning in the context of the knowledge economy organization, being able to describe the process of organizational learning and distinguish and relate the elements that facilitate this process and contribute to organizational competitive advantage.
DATABASES	IS 341	Use Database Management Systems (DBMS) in information management. Implement internal and external functions of a DBMS and properties of its execution model. Being able to use a DBMS for building information systems.
ORGANIZATIONAL CHANGE	BA 411	Master change and organizational development and meet the necessary tools to effectively manage the social changes occurring in organizational systems and subsystems.
FINANCIAL ENVIRONMENT OF BUSINESSES	FC 440	Develop the ability to interpret so adequate information emanating from accounting and use it as a basis for quantitative decisions.
GENERAL STUDIES IV	EG	
DESIGN FOR ORGANIZATIONAL COMMUNICATION	DV 427	Develop projects for solving problems of organizational communication, using design methodologies.
INFORMATION AUDITING	BC 430	Apply the main phases, methods and techniques of information auditing to identify and evaluate the use, resources and flow of information, in addition to making it known to the organization. It includes determining the equipment, its cost and value that it contributes to the organization and applying security measures in data processing.
WEB APPLICATIONS	IS 302	Design the structure of systems operating on the Web, understanding the concepts to implement applications in it. In addition, to develop the methodology to use programming languages, as well as specific tools for programming on the Web.
KNOWLEDGE MANAGEMENT	BA 430	Assess the strategic importance of knowledge in organizations, and develop skills to promote their creation, capture, encoding, storage and use.
GENERAL STUDIES V (CO-CURRICULAR)	EG	

INTELLECTUAL PROPERTY LAW	DE 387	Understand the constituent elements of the right to intellectual property in Mexico. Analyze the legal effects of the Free Trade Agreement of North America has generated in the Mexican Intellectual Property Law. Knowing the guidelines that the World Trade Organization in the field of intellectual property. Apply and analyze the legal framework of the Law of Intellectual Property through the presentation of case studies.
KNOWLEDGE ENGINEERING	BC 480	Conceptually and operationally dominate the development of expert systems for building knowledge and organizational learning.
PROFESSIONAL SEMINAR	BC 490	The student to have a significant professional experience by conducting a seminar of 200 hours minimum in a company operating under the dual supervision/mentoring of a company executive and a professor.
GRADUATION PROJECT II	BC 499	Apply formal investigation tools that will allow the student to demonstrate the skills developed throughout his career through a formal proposal for an open problem solving, as well as enabled for future research.
ELECTIVES		
LEADERSHIP	BA 401	Identify and learn in depth the leadership styles best suited according to the type of organization and develop the skills necessary to deal appropriately in management personnel to create and manage teams that allow to solve related problems with resources humans.
PROJECT MANAGEMENT	BA 460	Manage projects effectively and appropriately through a comprehensive and consistent methodology, valid for any type of projects, including organizational, technical and human aspects.
EVOLUTION OF BOOKS AND LIBRARIES	BC 160	Analyze, within the historical context, the evolution of books and libraries from ancient times to contemporary times, identify the different media and formats documentaries for disclosure, capture and storage of information.
COLLECTION DEVELOPMENT	BC 360	Develop, manage and evaluate management programs heritages as well as policies and procedures traditional and digital materials.

INVESTMENT PROJECTS	FC 463	Identify, analyze and outline the tools and methods for evaluating investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk. Define and develop the assessment methods considering market factors, technical, administrative, legal, financial, economic and social. Giving greater emphasis to financial and economic study.
DATABASE MANAGERS	IS 304	Know the basics of advanced topics in drivers database systems. The course covers data modeling from the semantic point of view and object-oriented. Likewise. They are covering fundamental aspects of distributed databases, object database, and interoperability issues in databases on the WWW. Other new technologies in databases will be briefly introduced.
MULTIMEDIA DATABASES	IS 448	Familiarize students with the characteristics of multimedia data and sensitize them to the issues to consider when multimedia data is managed. Also, ppresentar the main functions of multimedia systems, their differences and their uses.
VIRTUAL COLLABORATION ELECTIVES		
LEARNING COMMUNITIES	BC 440	Apply the corresponding guidelines for the development of learning communities and the use of information technology for implementation.
INFORMATION RECOVERY	IS 346	Identify the main problems associated with the use of large collections of data, particularly semi-structured and unstructured; modeling, storing, retrieval, query and visualization. Master and experience the use of tools designed to access massive information and management information via the web.
KNOWLEDGE CLASSIFICATION SYSTEMS	BC 310	Identify different document classification systems and use different formats for document cataloging.
SOFTWARE ENGINEERING	IS 323	Use appropriate methods to build quality software that works in real situations, following a formal development process. Develop methodology for generating software for different applications.

SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
DIGITAL LIBRARIES	BC 450	Identify the multidisciplinary area of digital libraries as the study of virtual spaces for access, use, generation and dissemination of knowledge, and generate innovative projects within it.
TECHNOLOGICAL INNOVATION PROJECTS	BC 454	Identify opportunities and challenges of defining projects significantly alter the management practices of knowledge.
MOBILE COLLABORATION	BC 444	Identify opportunities and challenges in the development of collaborative activities by individuals and mobile groups and their fundamental role in communication, preservation and generation of knowledge.
STORAGE MEDIA	IS 215	Manipulate files with different tools and devices also must be able to analyze the methods of storage and retrieval of information that are appropriate to store, modify, view and order.
ARTIFICIAL INTELLIGENCE	IS 343	Understand the different paradigms of artificial intelligence as well as the rationale for each of them to generate programs. Applying learning techniques and using a logic programming language: PROLOG
GRADUATION PROJECT I	BC 498	Apply formal investigation tools that will allow the student to demonstrate skills developed throughout his career through a formal proposal for solving an open problem.
MANAGEMENT OF INFORMATION CENTERS ELECTIVES		
LEARNING COMMUNITIES	BC 440	Apply the corresponding guidelines for the development of learning communities and the use of information technology for implementation.

INFORMATION RECOVERY	**IS 346**	Identify the main problems associated with the use of large collections of data, particularly semi-structured and unstructured; modeling, storing, retrieval, query and visualization. Master and experience the use of tools designed to access massive information and management information via the web.
KNOWLEDGE CLASSIFICATION SYSTEMS	**BC 310**	Identify different document classification systems and use different formats for document cataloging.
MANAGING FILES AND DOCUMENTS	**BC 432**	Identify the role and importance of managing information objects (physical and digital), as social beings facilitators of access to information and preservation of knowledge, linking the interrelationship between educational, social, political and cultural systems and ingenierpia and management of knowledge.
SOCIAL RESPONSIBILITY	**RS 498**	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
DIGITAL LIBRARIES	**BC 450**	Identify the multidisciplinary area of digital libraries as the study of virtual spaces for access, use, generation and dissemination of knowledge, and generate innovative projects within it.
INFORMETRICS	**BC 434**	Identify key concepts and interpret infometric studies as dispersion, development and productivity of literature, collaborative authoring, motivation, problems and evaluating quotes, journal databases, etc. Includes quantify, describe and predict the processes of written communication in traditional and electronic media.
MANAGEMENT AND CERTIFICATION OF INFORMATION CENTERS	**BC 460**	Develop the necessary skills to manage a documentation center effectively
TECHNOLOGICAL INNOVATION PROJECTS	**BC 454**	Identify opportunities and challenges of defining projects significantly alter the management practices of knowledge.

ARTIFICIAL INTELLIGENCE	IS 343	properly locate the different paradigms of artificial intelligence as well as the rationale for each of them to generate programs. Applying learning techniques and using a logic programming language: PROLOG
GRADUATION PROJECT I	BC 498	Apply formal investigation tools that will allow the student to demonstrate skills developed throughout his career through a formal proposal for solving an open problem.
ORGANIZATIONAL LEARNING ELECTIVES		
LEARNING COMMUNITIES	BC 440	Apply the corresponding guidelines for the development of learning communities and the use of information technology for implementation.
INFORMATION RECOVERY	IS 346	Identify the main problems associated with the use of large collections of data, particularly semi-structured and unstructured; modeling, storing, retrieval, query and visualization. Master and experience the use of tools designed to access massive information and management information via the web.
HUMAN RESOURCES MANAGEMENT	BA 211	Analyze and apply the most important HR concepts and functions within organizations
BUSINESS COMMUNICATION	BA 105	Master verbal and nonverbal communication tools. Act as a communication agent achieving informative and persuasive achieving objectives in organizations' public relations.
SOCIAL RESPONSIBILITY	RS 498	Develop a social and educational project to monitor and provide solutions to problems in various sectors, participating in different organizations and strengthening the development of professional, social and civic skills.
DIGITAL LIBRARIES	BC 450	Identify the multidisciplinary area of digital libraries as the study of virtual spaces for access, use, generation and dissemination of knowledge, and generate innovative projects within it.
INTELLECTUAL CAPITAL	BC 240	Identify concepts, components and processes to recover. Organize, use and evaluate the intellectual capital of an organization.

CONSULTING	BA 417	Study and analyze the practice of consulting organizations and also describe the operations necessary to intervene and plan for changes in companies.
TRAINING AND DEVELOPMENT	BA 415	Use the techniques of training staff to optimize and develop human resources in companies.
ARTIFICIAL INTELLIGENCE	IS 343	Properly locate the different paradigms of Artificial Intelligence, as well as the justification of each of them to generate programs. Apply learning techniques and use a logic programming language: PROLOG
GRADUATION PROJECT I	BC 498	Apply formal investigation tools that will allow the student to demonstrate skills developed throughout his career through a formal proposal for solving an open problem.

DOCTORATE IN CREATION AND CULTURE THEORY

ART THEORY	HU 610	Distinguish between art theory and aesthetics as areas of philosophical reflection that mark different problems: the theory of art as philosophical problem unlike aesthetics or science of beauty. The doctoral student should critically read a selection of some of the main theories on the conception of art, since the dawn of modernity to contemporaneity. The course will present the different conceptions of art will be presented on the theoretical basis that sustains: universalist and subjectivist conception of Kant; the historicist conception of Hegel; modern and urban conception of Benjamin and Baudelaire; and analytical conception of Goddman and Danto, among others.
CULTURE THEORY	AN 613	Build detailed knowledge of the premises, arguments, contributions and limitations of the theoretical streams around the display and use of the concept of culture. Analyze, criticize and orally explain the ideas and central arguments of a text, and discuss and argue these with other members of the class in a coherent and understandable way. Analyze, criticize and explain your own ideas through written essay and present them in a professional way.
MEDIA THEORY	CO 616	Reconstruct the historical development of mainstream research regarding the media. Analyze the role of the media as social and cultural agents. Conceptually and operationally dominate theories of the main functionalist authors, critics,

		culturalist and alternative through the study and analysis of major research reports and essays of these perspectives.
CRITICAL HISTORIOGRAPHY	**HU 629**	Students will be introduced to the discussion of current methodological contributions of historical knowledge to understand the importance of historical processes in the production of culture.
CULTURE AND MEDIA	**CO 636**	Analyze contemporary media culture. Perform specific research exercises to media products from the perspective of cultural studies.
RESEARCH SEMINAR I	**HU 639**	During this course the student will select a research topic, make a formal proposal to his thesis, present it to two of his synodical and get their approval.
RESEARCH SEMINAR II	**HU 649**	During this course the student will select a research topic, make a formal proposal to his thesis, present it to two of his synodical and get their approval.
THESIS SEMINAR I	**HU 659**	At the end of the semester, the student will have a thesis proposal approved by both the supervisor and by the Thesis Proposal Evaluation Committee of the Department.
THESIS SEMINAR II	**HU 669**	By the end of this course, the student will prepare and defend its thesis.
ELECTIVES		
ARCHITECTURE OF THE 20TH CENTURY	**AR 620**	To provide, anyone interested in the analysis of culture in general, an overview of the evolution of thinking in the fields of history, theory and criticism of architecture throughout the twentieth century, so that they acquire the necessary skills to: Analyze the architectural trends of the twentieth century, from modernism to contemporary Pluralism Understand the relationship of architecture with other visual arts Understand the historiographical orientation assumed by some historians of architecture.
THEORY AND CRITICISM OF THE CITY	**AR 640**	Understanding the phenomenon of the city in the field of material culture of society. Establishment of public policies of culture of the city to improve the quality of life and sustainable development of the population. Formulation of modes and forms of adaptation, rehabilitation and renovation of the city, considering the process of urban conformation.

GLOBALIZATION AND CULTURAL POLICIES	**CO 623**	Analyze and discuss the most recent debates on globalization, cultural diversity and cultural policies. Show conceptual mastery of the subject and develop personal views on the issues discussed throughout the course.
CULTURE AND MEDIA	**CO 636**	Analyze contemporary media culture. Perform specific research exercises to media products from the perspective of cultural studies.
NARRATIVE DISCOURSE IN ARTS AND MEDIA	**CO 646**	Trace, assimilate, recognize and analyze the narrative from the early stages of the development of both psychological and historical consciousness, to new languages, going through each of the fine arts and mass media. At the end of the course, the doctoral student should be able to build, critique and develop narrative messages within each of the artistic and electronic media and analyzed.
HERITAGE AND IDENTITY	**DG 640**	The course proposes a reflection about the process of building a sense of community identity from the appropriation of cultural heritage. These two concepts, heritage and identity, interlace and coexist from a perspective that understands equity as a construction from the present and as a collective selection and mediation process.
MARKETS, ART AND CULTURE	**EC 620**	Build a detailed picture of the operation of art and culture markets, with special emphasis on the theoretical problems, such as information asymmetries or collective action problem, arising among market participants.
BUSINESS ADMINISTRATION FOR ARTISTIC AND CULTURAL ENTERPRISES	**EC 640**	The purpose of this course is to develop a general management method for artistic and cultural companies that can serve managers as a reference to make proper decisions.
WITTGENSTEIN AS A PHILOSOPHER OF CULTURE	**FI 640**	This course is assembled on a double pivot. On one hand, presents and analyzes the most important implications for the idea of knowledge that involve the conceptions of language by Ludwig Wittgenstein. On the other, the impact of these ideas are examined in various spheres of cultural production: from the philosophical practice to the avant-garde poetry, passing through the diary as a confessional exercise and a intellectual elucidation or the skepticism as moral and existential issue.

CONCEPTS FOR CULTURAL CRITICISM	**HA 636**	The aim of this course is that students master a number of concepts such as theory, technology, postcolonialism and visual studies, from which to critically consider the cultural production of the twentieth century. The purpose of this is eminently practical, as it seeks to focus, analytically and enlighteningly, manifestations of architecture, film, photography and the visual arts through notions that allow them to be open to new horizons of interdisciplinary interpretation.
NEW LATIN AMERICAN FICTION	**LI 620**	Make the student knows in depth the canonical works of Latin American literature back to 1940, as well as different social, literary and political contexts that explain the evolution of the literary system during this period.
CULTURAL IDENTITY IN LATIN AMERICA	**LI 623**	Examine the genealogy of the identarian discourses about the culture of Latin America and the current state of the problem. Given the extent of the subject, the course will focus on the essayistic tradition of the twentieth century and reflection about Latin American art and literature.
TRANSLATION AND GREAT MEXICAN NOVELISTS IN THE SECOND HALF OF THE TWENTIETH CENTURY	**LI 633**	The works of Sergio Pitol and Fernando del Paso, the greatest Mexican novelists of the second half of the twentieth century will be studied from the different meanings of translation, which will clearly show the rhizome of relations established with Western culture.
FANTASTIC LITERATURE AND MAGIC REALISM IN LATIN AMERICA	**LI 634**	The main object of study of the course is the discussion that have arisen in Latin America, between theorist and critics, the concepts of "fantasy literature" and "magical realism". To try to solve the problem of defining these terms, we will first examine the most important European theories of fantastic literature, from the one outlined in 1919 by Sigmund Freud in "Das Unheimliche", to the most recent. Second we will consider the theories of Latin American fantastic literature in constant confrontation with European theories. Third, we shall study the vicissitudes of the term "magical realism" from the definition proposed in 1925 by the German art critic Franz Roh to characterize the German post expressionist painting, up until the one formulated by Seymour Menton in 1998 to define certain writers and artists from different parts of the world.

ESSAY AND CRITICISM WORKSHOP	**LI 646**	Exercise, with depth and rigor, in the practice of various forms of critical writing. From approaching literary criticism and research at different times of the process, The course seeks to mater the rhetorical and stylistic resources of the trial as well as the various methodological formats and those from journalism. Based on the permanent praxis, it will participate in a collective reflection on the role, social space and uses of the critical and essayists genres.
CURRENT SITUATION SEMINAR	**RI 623**	Analyzes and investigates a socio-economic or political issue that, because of its impact on contemporary intra-regional relations, deserves a special study. The subjects are variable based in the dynamic changes in regional scenario.
THEATRICAL CULTURE IN MEXICO	**TE 620**	The general content of this seminar, taking into account the overall theme referred in its title: "Theatrical Culture in Mexico" may vary from semester to semester, depending on the training and interests of students and the teacher. an example of curriculum seminar discussed herein. Theatrical Culture in Mexico: Mexican Playwriting in the second half of the twentieth century.
GENDER AND THEATRICS IN MEXICO	**TE 633**	Students design a thought on the selected corpus, applying the concepts of gender theory and other related cultural studies.
THEATRICALITIES: ART, POLITICS AND MEDIA SCENE	**TE 636**	The objective is for students to develop strategic thoughts related to the construction processes of theatrics in the political, artistic and social context of Mexico and other parts of the world. Students should recognize the presence of theatricality in many examples of daily life and be able to design strategies of theatricality within their own professional and social environment.

DOCTORATE IN INTERNATIONAL RELATIONS

CURRENT DISCUSSIONS OF CONTEMPORARY INTERNATIONAL RELATIONS THEORISTS	**RI 600**	Depth analysis of theoretical thinking about international relations, analyzing different approaches and theoretical paradigms that have developed as well as involving different methodologies.

CONTEMPORARY THEORIES OF COMPARATIVE POLITICS	**RI 605**	The student has to identify, apply the methodology and critically evaluate the main types of comparative research. At the end of the course the student will have acquired tools and skills for comparative analysis and will be able to clearly establish the links between theory and methodology of each type of comparative research covered in the course. These will be the basis on which the student will justify their position in the debate between theories of comparative politics. Depth analysis of theoretical thinking about international relations, analyzing different approaches and theoretical paradigms that have developed as well as involving different methodologies.
CONTEMPORARY PERSPECTIVES GLOBAL POLITICAL ECONOMY AND DEVELOPMENT	**RI 610**	Give the student an overview, in the various contemporary perspectives, of the economic development and international development. Analyze the economic performance, the functioning of institutions, the behavior of the actors and the global economic and political processes. Locate the current economic issues in terms of globalization, comparing the causes, manifestations and perspectives solutions of the respective economic problems.
CONTEMPORARIES TOPICS SECURITY, DEMOCRACY AND HUMAN RIGHTS	**RI 615**	The students will expand their knowledge and strengthen their advanced skills in building arguments as well as their understanding of the relationship between theory and practice in international affairs.

ADVANCED RESEARCH METHODOLOGIES	**RI 620**	This course instructs the doctoral candidate in advanced research design techniques. In addition to practicing techniques are advanced in the search and organization of materials, students will learn how to identify and list the components of a large research project into manageable components. Key objectives include: finding a research topic orientation and proper scope; develop an original research question; establish and justify a problem; introducing a hypothesis / central argument carefully constructed and the respective sub-hypothesis; understand how the hypothesis be related to the problem and structure of the thesis; choose and defend the right methodology; and maximize the originality of the contribution. Learn how to apply best practices in structuring their research design independently; check the consistency and validity of each component understanding their relationship with others and how it is affected by the other; avoid common problems in the development logic of an argument and eventually combine all these skills in building an acceptable thesis proposal, coherent and interesting. This course trains students in the practice of presenting orally proposed in preparation for the defense of his thesis proposal. Also it trains students through a forum for constructive criticism in which they can receive feedback from teachers and other candidates.
PROJECT I	**RI 625**	The student will learn methods and research resources, forms and styles of academic presentations and theses, ways of writing drafts, and development of research topics.
LAB PROJECT I		The student will learn methods and research resources, forms and styles of academic presentations and theses, ways of writing drafts, and development of research topics.
PROJECT II	**RI 630**	The student will learn methods and research resources, forms and styles of academic presentations and theses, ways of writing drafts, and development of research topics. It will continue writing his doctoral thesis.
LAB PROJECT II		The student will learn methods and research resources, forms and styles of academic presentations and theses, ways of writing drafts, and development of research topics. It will continue writing his doctoral thesis.
THESIS ADVISEMENT I	**RI 635**	The student will learn methods and research resources, forms and styles of academic presentations and theses, ways of writing drafts, and development of research topics. It will continue writing his doctoral thesis.

LAB THESIS ADVISEMENT I		The student will learn methods and research resources, forms and styles of academic presentations and theses, ways of writing drafts, and development of research topics. It will continue writing his doctoral thesis.
THESIS ADVISEMENT II	RI 640	The student will learn methods and research resources, forms and styles of academic presentations and theses, ways of writing drafts, and development of research topics. In addition, complete the process of thesis research and conduct the defense of the its Thesis before the jury designated for it.
LAB THESIS ADVISEMENT II		The student will learn methods and research resources, forms and styles of academic presentations and theses, ways of writing drafts, and development of research topics. In addition, complete the process of thesis research and conduct the defense of the its Thesis before the jury designated for it.
ELECTIVES		
GLOBALIZATION AND REGIONALIZATION	RI 650	The student will expand its capacity for political analysis in courses conducted by researchers in the current academic debates that are discussed in terms of the theme of Globalization and Regionalization.
CULTURE, IDENTITY AND COMMUNICATION	RI 655	The student will expand its capacity for political analysis in courses conducted by researchers in the current academic debates that are discussed in terms of the theme of Culture, Identity and Communication. To analyze the evolution and construction of collective identities and their influence in international politics.
CURRENT SITUATION SEMINAR I	RI 690	The course Analyzes and investigates on a socio-economic or political issue That, given its impact on contemporary international relations, deserves a special study. The subject is variable given the dynamics of changes in the international arena.
CURRENT SITUATION SEMINAR II	RI 691	The course Analyzes and investigates on a socio-economic or political issue That, given its impact on contemporary international relations, deserves a special study. The subject is variable given the dynamics of changes in the international arena.

DOCTORADO IN SCIENCE, ENGINEERING AND TECHNOLOGY EDUCATION

QUANTITATIVE METHODS FOR THE EDUCATIONAL RESEARCH	ED 517	The student will understand and apply the quantitative research process elements in education, in the development of a research project. The student will gain a conceptual and rigorous methodological framework about the educational research processes so that allows him to properly apply these knowledges and skills.

DEVELOPMENT OF THINKING SKILLS	**ED 523**	Students will be able to create a scientific essay with publishable quality in education, to argue strongly, of selecting the right type of argument in writing, of understanding the relationship between thinking skills, language and communication, and identify the importance of thinking with the others.
THEORIES OF KNOWLEDGE AND LEARNING AND AFFECTIVE PROCESSES	**ED 571**	The participant will develop an analytical approach that allows him to understand the theoretical foundations essential to the process of teaching and learning in terms of explanations: how human beings acquire knowledge as proposed by different philosophical schools of thought; how it learns according to different learning theories and how it develops its affectivity in the process. the student will establish the relationships between some current epistemological and learning theories and theories related to affective processes.
HOW PEOPLE LEARN SCIENCE, ENGINEERING AND TECHNOLOGY: INCORPORATING THEORY AND RESEARCH TO EDUCATIONAL PRACTICE	**EI 520**	Understand how human beings learn, and in particular how we learn science, engineering and technology. Incorporate theory and research to educational practice in the classrooms of science, engineering and technology from kindergarten to high school, undergraduate and graduate.
QUALITATIVE EDUCATIONAL RESEARCH METHODS	**ED 518**	The student should acquire the theoretical and methodological knowledge necessary to develop projects, from the macrosocial, the microsocial, inductive and deductive perspective, of cultural interaction, intensive and extensive, as well as process analysis.
CONTEMPORARY PEDAGOGICS	**ED 570**	This seminar explicit purpose is to know the theories of the twentieth century that have determined the most important pedagogical practices. The underlying purpose is to encourage reflection on educational action that has prevailed in our time, so that the student develop their own theoretical and practical perspective as an educator.
RESEARCH SEMINAR I	**EI 501**	Give the student knowledge about the structure of a graduate thesis, a technical report, a scientific article in Spanish or English, an oral presentation in Spanish or English and a poster for display at a conference, to enable him to transform information from technical reports or thesis in a scientific article in Spanish and English, in preparing a poster for display at a conference, and how to write a draft research to both a graduate thesis, as for CONACyT or some Anglophone institution to fund scientific research.
RESEARCH SEMINAR II	**EI 502**	Give the student knowledge about the structure of a graduate thesis, a technical report, a scientific article in Spanish or English, an oral presentation in Spanish or English and a poster for display at a conference, to enable him to transform information from

		technical reports or thesis in a scientific article in Spanish and English, in preparing a poster for display at a conference, and how to write a draft research to both a graduate thesis, as for CONACyT or some Anglophone institution to fund scientific research.
RESEARCH PROJECT I	**EI 601**	At the end of this course the student must have completed a conceptual and detailed analysis of a project that allows him to apply one or more areas of the doctorate, thereby obtaining practical experience required to develop a project of considerable magnitude.
RESEARCH PROJECT II	**EI 602**	At the end of this course the student must have completed a conceptual and detailed analysis of a project that allows you to apply one or more areas of the doctorate, thereby obtaining practical experience required to develop a project of considerable magnitude.
RESEARCH PROJECT III	**EI 603**	At the end of this course, the student must have completed the implementation of his thesis project.
ELECTIVES		
EDUCATIONAL PATTERNS AND SOCIAL DEVELOPMENT TRENDS	**ED 508**	The student will be able to associate the multisectoral educational methods to the different trends of social development.
QUALITY ASSESSMENT OF FORMAL EDUCATION	**ED 519**	The purpose of this course is to analyze the different models of learning assessment, institutional and educational programs.
DEVELOPMENT STRATEGIES THINKING SKILLS	**ED 524**	Students will be able to understand the process of human cognition from the biological, social and cultural perspectives, will be able to identify key positions and models of the thinking skills, and be able to apply a series of instructional models to develop thinking skills.
PARADIGMS OF EDUCATIONAL QUALITY	**ED 540**	The student will know the different definitions and models about the quality of education both formal and non-formal, as well as its implementation considering the educational organization in terms of its philosophy, conditions, problems, etc.
PERSPECTIVES AND EVALUATION OF SOCIAL PROGRAMS AND ADULT EDUCATION	**ED 541**	The student will formulate criteria for assessing the quality of individual and collective learning processes of the social programs and of adult education, considering its various theoretical methodological approaches.
MANAGEMENT AND LEADERSHIP FOR EDUCATIONAL QUALITY	**ED 552**	Understand how the different forms and styles of leadership influence the development of the quality of educational organizations. Contrast leadership styles by identifying the strengths and weaknesses that each of them offer when exercised in the educational organizations. Apply the concepts acquired during the course to real scenarios provided by the

		experience of each of the participants of the course. Design a game to be use in leadership training where the theoretical aspects, concepts, models, streams and applications of leadership can be developed in organizational settings. It is essential the extensive use of web sites for the development of this project.
EDUCATIONAL TECHNOLOGY AND INSTRUCTIONAL DESIGN	**ED 572**	The student will be able to identify an instructional need in a real context and to propose a research and development protocol to design, implement, and propose the evaluation of a solution based on instructional design on the overall conception of educational technology.
SELECT TOPICS IN EDUCATIONAL QUALITY	**ED 580**	In this course there is no defined content in advance. it is a seminar style course in which it is expected that the students develop knowledge and/or skills in their area of interest. Its purpose and content will be based on the interests of students in the program within the general area of quality of education.
CONCEPTUAL MAPS AND V-DIAGRAMS AS TOOLS THAT FACILITATE LEARNING IN SCHOOLS AND BUSINESSES	**EI 521**	Understand how conceptual maps and V-diagrams improve learning. Implement and evaluate them in the science, engineering and technology classrooms from kindergarten to high school, undergraduate and graduate.
ACTIVE AND COOPERATIVE LEARNING	**EI 522**	Knowing the basics of active and cooperative learning. Practice how to apply them in the science, engineering and technology classrooms from kindergarten to high school, undergraduate and graduate.
EFFECTIVE ENVIRONMENTS FOR LEARNING SCIENCE, ENGINEERING AND TECHNOLOGY	**EI 523**	Knowing how you can create effective learning environments and implement them and evaluate them in the science, engineering and technology classrooms from kindergarten to high school, undergraduate and graduate.
LEARNING SCIENCES	**EI 525**	Recognize the benefits of the teaching-learning process focused on guiding students in solving problems and analyzing the most common mistakes people make in when learning science. Study the motivation of science development, based on its historical process, and of its creators as well as its impact on society. Use the Science approach, Society, Technology + Information (CST + I), critical and creative thinking, and collaborative learning to promote learning science topics. Analyze the educational approach based on the re-discovery of scientific concepts in the classroom, together with the student. Using constructivist learning so that through previous ideas, new concepts are generated from confrontation.
SELECT TOPICS IN EDUCATION OF SCIENCE,	**EI 530**	Deepen knowledge in various areas of Education of Science, Engineering and Technology. This course will address current issues related to advances in the different areas of education.

ENGINEERING AND TECHNOLOGY		The course will be taught by both resident teachers, as visiting professors, that will help to expand the basis of knowledge available to the graduate program. This course will also provided in the case that a research project theses requires it.
SELECT TOPICS IN EDUCATION OF SCIENCE, ENGINEERING AND TECHNOLOGY II	**EI 531**	Deepen knowledge in various areas of Education of Science, Engineering and Technology. This course will address current issues related to advances in the different areas of education. The course will be taught by both resident teachers, as visiting professors, that will help to expand the basis of knowledge available to the graduate program. This course will also provided in the case that a research project theses requires it.
SELECT TOPICS IN EDUCATION OF SCIENCE, ENGINEERING AND TECHNOLOGY III	**EI 532**	Deepen knowledge in various areas of Education of Science, Engineering and Technology. This course will address current issues related to advances in the different areas of education. The course will be taught by both resident teachers, as visiting professors, that will help to expand the basis of knowledge available to the graduate program. This course will also provided in the case that a research project theses requires it.
ELECTIVES		
EDUCATION PHILOSOPHY AND KNOWLEDGE THEORIES	**ED 501**	The student must analyze the educational phenomenon from the ontology, epistemology and axiology perspectives and understand the basics of the main theories of knowledge.
METHODOLOGIES FOR THE CONSTRUCTION OF KNOWLEDGE IN THE CLASSROOM	**ED 503**	Develop in students the skills to design constructivist learning environments that promote the construction of significant knowledge and the free negotiation of meanings.
INSTRUCTIONAL DESIGN	**ED 504**	Develop skills to plan, develop and evaluate the instructional process based on the understanding of different theoretical and methodological models of instructional design.
RESEARCH-ACTION METHODS	**ED 506**	Facilitate the use of research techniques that allow teachers to solve problems they may face in their professional work, Trough the generation of knowledge. Review, select, justify and apply the approaches, methods, techniques and tools of social science research and of education in the explanation and interpretation of the educational phenomenon in its various expressions.
LEARNING ASSESSMENT	**ED 507**	Throughout the educational events, education professionals engage in a constant process of decision making, hence the need for decisions to be grounded on actual basis as the consequences of using inadequate educational measurement procedures for the proper assessment of student achievement, can be costly in different aspects. This course will focus primarily on the different strategies for measuring student achievement and attitudes, as well as related concepts and procedures, which are necessary to

		cast solid value judgments on the results of the education phenomena.
WORKING GROUPS AND COLLABORATIVE LEARNING	**ED 526**	Student should develop metacognitive, critical and creative skills to work and learn collaboratively.
RESEARCH REPORT INTERPRETATION	**ED 527**	Train the student in making decisions applying the most common methods of analysis and interpretation of data through the recognition, presentation, classification, interpretation and inference based on theoretical and practical foundations that allow him to distinguish , manipulate, compare and reorganize information to justify those decisions.
LEARNING TOOLS	**ED 528**	Allow the participant to develop innovative teaching-learning strategies, incorporating the use of various means to facilitate their students learning.
EDUCATION IN VALUES	**ED 529**	Students will be able to design teaching-learning processes that incorporate axiological training and encourage students to develop skills to learn how to coexist trough the understanding of the different educational models and current values.
THE COMPUTER AS A COGNITIVE TOOL	**ED 535**	The Students will apply constructivist pedagogy to develop thinking skills in the design of learning environments that make extensive use of Information and Communication Technology particularly the computer with the intention that technology used as a cognitive tool by the student.
DESIGNING LEARNING ENVIRONMENTS MANAGED BY A COMPUTER	**ED 537**	The student will be able to design environments managed by computers, appropriate for different learning styles, through the application of modern technologies for the communication of information, considering the different learning theories and the instructional methodologies and strategies appropriate for creating effective instruction.
ANALYSIS OF EDUCATION AND ITS TRENDS	**ED 547**	Develop in students the ability to analyze and interpret educational processes from the point of view of social sciences, considering the relationship between education, the subjects as well as the fields of power and knowledge.
PERFECTING TEACHING SKILLS I	**ED 549**	The participants will conduct a self-analysis of their teaching skills, so that they can diagnose skills to improve and develop a plan to achieve it.

TEACHING ETHICS	ED 555	Create a space for reflection and discussion on various ethical positions in the current context and the ethical implications of teaching, in the development of its students, the institution and the community they serve with their professional activity and from these different perspectives.

DOCTORADO IN FOOD SCIENCE

RESEARCH SEMINAR V	IA 601	Establish and describe the structure of a doctoral thesis and propose a format for its dissertation in a logical sequence.
RESEARCH PROJECT IV	IA 680	The student must organize and develop a conceptual and detailed analysis of a project that allows him to apply one or more areas of the doctorate, thereby obtaining practical experience required to develop a project of considerable magnitude.
HOW PEOPLE LEARN SCIENCE, ENGINEERING AND TECHNOLOGY: INCORPORATING THEORY AND RESEARCH TO EDUCATIONAL PRACTICE	EI 520	Understand how human beings learn, and in particular how we learn science, engineering and technology. Incorporate theory and research to educational practice in the classrooms of science, engineering and technology from kindergarten to high school, undergraduate and graduate.
RESEARCH SEMINAR VI	IA 603	Identify the main components of a scientific paper and apply a format to be used in scientific publications.
RESEARCH PROJECT V	IA 682	Raise the research problem and outline the doctoral thesis project.
RESEARCH SEMINAR VII	IA 605	Develop a scientific review article and the literature related to the research topic for publication.
RESEARCH PROJECT VI	IA 684	Implement the technical and scientific methodologies needed to conduct research and obtain results of the experimental part of the doctoral thesis project.
RESEARCH SEMINAR VIII	IA 607	Develop a scientific presentation to be defended orally at a food science conference or congress.
RESEARCH PROJECT VII	IA 686	Get technical and scientific results related to the stated objective for the experimental development of the doctoral thesis project.

RESEARCH SEMINAR IX	IA 609	Develop a technical-scientific presentation as a poster for its presentation at a food science conference or congress.
VIII RESEARCH PROJECT	IA 688	Model and illustrate the technical and scientific results obtained in the experimental development of the doctoral thesis project.
RESEARCH SEMINAR X	IA 611	Develop a research proposal to search for funds from CONACyT or foreign institutions.
RESEARCH PROJECT IX	IA 690	Analyze and substantiate the written report of the doctoral thesis and demonstrate knowledge of the subject in the presentation to teachers and students of the department.
ELECTIVES		
SELECT TOPICS OF FOOD MICROBIOLOGY	IA 512	Establish and analyze knowledge in various areas of food microbiology, tackling related to advancements in different areas of food microbiology topics.
TECHNOLOGY OF FOOD PROCESSES	IA 520	Identify, implement and support the methodology for the analysis and design of the most representative processes of the food industry. To evaluate the effect of process variables on the effectiveness of the processes and the quality of the final products.
ADVANCED PHYSICOCHEMICAL CHARACTERISTICS OF FOOD	IA 532	Describe and interpret the concept of water activity, its control and influence on the physical, chemical and biological deterioration of food, and the use of the kinetic principles to optimize handling, processing and storage of food . Analyze the principles involved in the chemistry of colloids, the fabrication of food foams, sols, gels and emulsions, as well as factors affecting its stability.
SELECT TOPICS IN FOOD SCIENCE	IA 534	Apply the knowledge acquired and generate new knowledge in the field of food science to solve practical problems encountered in the new food preservation methods currently applied, analyzing their evolution from a scientific point of view.

PHYSICAL PROPERTIES OF FOOD	IA 538	Identify what physical properties of food (PPF) are more interesting for quality control / equipment design / conservation processes and relate the meaning of the units and values of the PPF. Interpret the basic principles governing changes in PPF, and assess the effect of such changes or factors on the PPF characteristics. Relate biochemical and physiological changes of food and the effects of different processes and their influence on the PPF. Describe the methods and uses of equipment and instruments used for the determination of PPF. Use software developed as a database or PPF predictive models.
TECHNOLOGY FOR FOOD OF PLANT ORIGIN	IA 541	Identify and describe the theoretical and practical aspects of the processes of preservation of foods od plant origin; Perform practices of some processes at a pilot plant level.
TECHNOLOGY FOR FOOD OF ANIMAL ORIGIN	IA 543	Describe the operational and process units used in the elaboration of food products of animal origin, establish the relationship between the components functionality and quality of the processed product, and use this knowledge to develop a pilot plant level processed product.
SELECT TOPICS IN FOOD TECHNOLOGY	IA 546	Describe the fundamentals of new technologies in the food area and analyze their applications, maintaining updated knowledge in this area.
PROCESS ENGINEERING IN FOODS	IA 567	Establish and describe the mass transfer phenomena in the food preservation processes, specifically those related to transfer through diffusion.
SELECT TOPICS IN FOOD ENGINEERING	IA 580	Apply the knowledge gained in food engineering to solve practical problems encountered with the current technologies, applied in an industrial level.
PREDICTIVE MICROBIOLOGY	IA 551	Identify, describe and analyze the elements that have conditioned the development of Predictive Microbiology in food as well as the theoretical and practical concepts that underlie it.
SENSORY EVALUATION OF FOOD	IA 553	Distinguishing the theoretical and practical elements related to the senses and sensory impressions generated by food as a whole. Also establish and describe the methods and techniques of sensory evaluation in food and how to process the data using tables and/or statistical computer packages for generating conclusions.

EMERGING TECHNOLOGIES IN FOOD PROCESSING	IA 555	Describe the elements that have conditioned the development of food preservation technology, as well as the theoretical and practical concepts underlying the new trends of processing and conservation.
EXPERIMENTAL DESIGNS FOR PRODUCT DEVELOPMENT AND PROCESS ANALYSIS	IA 533	Identify and apply the key concepts of solution methods for different experimental designs used in product development and analysis of food processes. Apply, design and analyze experiments that aim to test hypotheses about the effects of procedures or treatments on the performance of a process.
ADVANCED FOOD MICROBIOLOGY	IA 510	Identify the role of microorganisms in food spoilage, sanitary quality and public health. Analyze the application of extrinsic and intrinsic factors to food for its proper conservation and prevention of diseases related to food consumption.
FOOD ANALYSIS	IA 524	Describe the main methods used to quantify the food components such that, from the understanding of the fundamentals so the appropriate one can be selected given an specific situation; make changes without affecting the accuracy of the results; and manage data and results.
ADVANCED FOOD CHEMISTRY	IA 530	Identify the fundamental principles and the latest developments of major chemical changes that occur in food affecting or benefiting them as well as aspects of the functionality of the components and their influence on the nutritional and organoleptic physical, chemical, food.
RESEARCH SEMINAR I	IA 501	Identify and implement the structure of a graduate thesis. Develop a scientific and bibliographic review article related to the research topic for publication.
ADVANCED FOOD MICROBIOLOGY	IA 510	Identify the role of microorganisms in food spoilage, sanitary quality and public health. Analyze the application of extrinsic and intrinsic factors to food for its proper conservation and prevention of diseases related to food consumption.
FOOD MICROBIOLOGY LAB	IA 511	Identify and analyze the principles governing the presence of microorganisms in foods, and the control measures that may be applicable to foods.

FOOD ANALYSIS	IA 524	Describe the main methods used to quantify the food components such that, from the understanding of the fundamentals so the appropriate one can be selected given an specific situation; make changes without affecting the accuracy of the results; and manage data and results.
ADVANCED FOOD CHEMISTRY	IA 530	Describe and analyze the fundamental principles and the latest developments of major chemical changes that occur in food by damaging or improving them, as well as the functionality aspects of its components and their influence on the physical, chemical, nutritional and organoleptic properties of foods.
ADVANCED FOOD CHEMISTRY LAB	IA 531	Properly manipulate the chemical and biological material and interpret experimental observations and results obtained in the chemical in foods laboratory.
RESEARCH SEMINAR II	IA 503	Develop a scientific presentation to be defended orally at a conference or congress in food science.
EXPERIMENTAL DESIGNS FOR PRODUCT DEVELOPMENT AND PROCESS ANALYSIS	IA 533	Identify and apply the key concepts of solution methods for different experimental designs used in product development and analysis of food processes. Apply, design and analyze experiments that aim to test hypotheses about the effects of procedures or treatments on the performance of a process.
RESEARCH PROJECT I	IA 591	Develop the conceptual and detailed analysis of a project that allows you to apply one or more areas of expertise; it get practical experience required to develop a project of considerable magnitude.
RESEARCH SEMINAR III	IA 505	Develop a technical-scientific presentation as a poster for presentation at a conference or congress in food science.
RESEARCH PROJECT II	IA 593	Implement the technical and scientific methodologies needed to conduct a research and obtain the results of the experimental part of the master's thesis project.
RESEARCH SEMINAR IV	IA 507	Develop a research proposal to request funding from CONACyT or other foreign institutions.
RESEARCH PROJECT III	IA 595	Analyze and substantiate the written report of the master's thesis work and demonstrate knowledge of the subject in the presentation to teachers and students of the department.
ELECTIVES		

SELECT TOPICS FOOD MICROBIOLOGY	**IA 512**	Establish and analyze knowledge in various areas of food microbiology, tackling related to advancements in different areas of food microbiology topics.
TECHNOLOGY OF FOOD PROCESSES	**IA 520**	Identify, implement and support the methodology for the analysis and design of the most representative processes of the food industry. To evaluate the effect of process variables on the effectiveness of the processes and the quality of the final products.
ADVANCED PHYSICOCHEMICAL CHARACTERISTICS OF FOOD	**IA 532**	Describe and interpret the concept of water activity, its control and influence on the physical, chemical and biological deterioration of food, and the use of the kinetic principles to optimize handling, processing and storage of food . Analyze the principles involved in the chemistry of colloids, the fabrication of food foams, sols, gels and emulsions, as well as factors affecting its stability.
SELECT TOPICS IN FOOD SCIENCE	**IA 534**	Apply the knowledge acquired and generate new knowledge in the field of food science to solve practical problems encountered in the new food preservation methods currently applied, analyzing their evolution from a scientific point of view.
PHYSICAL PROPERTIES OF FOOD	**IA 538**	Identify which physical properties of food (PPF) are more interesting for the quality control / equipment design / conservation processes and relate the meaning of the units and values of the PPF. Interpret the basic principles governing changes in PPF, and assess the effect on their characteristics.
TECHNOLOGY FOR FOOD OF PLANT ORIGIN	**IA 541**	Identify and describe the theoretical and practical aspects of the processes of preservation of foods od plant origin; Perform practices of some processes at a pilot plant level.
TECHNOLOGY FOR FOOD OF ANIMAL ORIGIN	**IA 543**	Describe the operational and process units used in the elaboration of food products of animal origin, establish the relationship between the components functionality and quality of the processed product, and use this knowledge to develop a pilot plant level processed product.

SELECT TOPICS IN FOOD TECHNOLOGY	IA 546	Describe the fundamentals of new technologies in the food area and analyze their applications, maintaining updated knowledge in this area.
PROCESS ENGINEERING IN FOOD	IA 567	Describe and substantiate the mass transfer phenomena in the food preservation processes, specifically those related to transfer through diffusion.
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SENSORY EVALUATION OF FOOD	IA 553	Distinguishing the theoretical and practical elements related to the senses and the sensory impressions generated by food as a whole. Also establish and describe the methods and techniques of sensory evaluation in food and how to process the data using tables and/or statistical computer packages for generating conclusions.
EMERGING TECHNOLOGIES IN FOOD PROCESSING	IA 555	Describe the elements that have conditioned the development of food preservation technology, as well as the theoretical and practical concepts underlying the new trends of processing and conservation.

DOCTORATE IN PSYCHOLOGY

SCIENCE PHILOSOPHY	PS 601	Describe the basic notions that have been used to explain what the philosophy of science is and how it works.
ADVANCED QUANTITATIVE RESEARCH METHODS	PS 602	Describe the basic multivariate methods and their application in psychological research. Distinguishing the importance of multivariate methods in contemporary research. Develop the principles of construction and development of scales. Describe the basic principles of multiple discriminant analysis, the main ideas of factor analysis, cluster analysis and the principles of the analysis using structural equations as well as the main sampling techniques.

SUPERVISED RESEARCH I	PS 603	Design the research project in its initial phase describing the main theoretical foundations of the variables that the student will investigate.
SELECT TOPICS IN PSYCHOLOGY	PS 610	Examine issues related to the research project and formulate the fundamental concepts of the project.
SPECIFIC ORIENTATION COURSE	PS 611	Review and formulate techniques and methods related to the variables of the research project.
SUPERVISED RESEARCH II	PS 612	Select enough literature for the research selected for thesis. Make the case for the bibliographic information selected for the project.
RESEARCH COLLOQUIUM I	PS 613	Discuss the Challenges and prospects of the research project and recognize the various facets of the development of the project.
SUPERVISED RESEARCH III	PS 620	Describe the institutions or communities that can facilitate data collection in the field. Discuss how the research data will be collected and, if necessary, how the pilot studies will be conducted so the instruments can be adjusted or the field problems can be analyzed as the arise.
RESEARCH COLLOQUIUM II	PS 621	Demonstrating progress of the research project and examine the results achieved. Redefine the concepts and variables. Discuss research methodology.
SUPERVISED RESEARCH IV	PS 630	Sort the data collected in the field, interpret and explain them. Identify relevant data that prove the hypothesis.
RESEARCH COLLOQUIUM III	PS 631	Explain the data collection and analysis proposed in the doctoral project, also identify the problems and prospects in the collection and analysis of data for the research project.
SUPERVISED RESEARCH V	PS 640	Describe the results of the research project and develop the discussion and the final manuscript.

MASTER IN MANUFACTURING MANAGEMENT

Organizational behavior	AD 553	Describe the classical models that explain human behavior, apply them to the knowledge of human beings inside organizations.

Strategic Cost analysis	**CP 522**	Relate the proper cost information to select the strategy of the company, through an analytical methodology.
Corporate Strategy	**AD 570**	Apply the main conceptual, methodological and technological tools for the development of the strategy in an organization.
Financial Planning and Control	**CP 530**	Apply some aspects of the theory and nomenclature of financial analysis in a modern version and updated case studies.
Information Management	**AD 512**	Use and manage information technology to improve business processes, improve decision making and gain competitive advantage. Develop the ability to identify and analyze information problems, seeking innovative alternatives to address them based on best practices, developing a business case in which the problem and proposed solutions are considered in terms of management, organization and technology.
Operations Modeling	**II 561**	Understand the most commonly used optimization models in industrial engineering. Apply the modeling process as support for solving problematic situations, use optimization models in this process and model typical problems.
Statistics for Business	**II 571**	Apply the fundamentals of probability theory and statistical theory and while identifying the significance and importance of both in solving real problems.
Quality engineering	**II 572**	Apply the theoretical concepts of the different systems and control charts as tools to control the quality of products and services during their manufacturing processes.
Flexible Manufacturing Systems	**II 583**	Master the basic elements of a flexible manufacturing system and the necessary tools for its assessment, planning and control.
Marketing Management	**MK 521**	Develop a marketing strategy that includes decisions about product / services, channels and mechanisms of promotion, pricing and communications, to meet the needs of their target markets.
Human Resources Department	**AD 537**	Apply selection processes, recruitment and hiring to include workers in an organization. Develop plans for development and training. Describe forms of separation and motivation of humans within work.

Electronic Business	**AD 559**	Master Internet's main features and tools. Analyze existing Internet business models as well as privacy and security issues associated with them. Apply a methodology for analyzing problems of information and develop a business case. Create Internet applications for the marketing process and describe the concepts of e-services Management and Customer Relations or Customer Relationship Management (CRM).
Planification and control of the production	**II 582**	Apply the necessary tools to schedule production based on a strategic plan to reach the development and control of a master production plan.
Quantitative Methods for Logistics Management	**II 584**	Manipulate quantitative approaches that serve as support in the decision-making process for issues related to logistics management.
Simulation of Production Systems	**II 562**	Design, develop, verify, validate and analyze a simulation model. Develop alternative action by using simulation languages.
Manufacturing Systems	**II 581**	Design production systems appropriate to the requirements given by a specific company. Describe the basics of each type of system.
Business project	**II 596**	successfully develop the research project, in which the student will apply the knowledge acquired throughout the Masters.
ELECTIVES		
Lean Manufacturing	**II 588**	Apply the basics of lean manufacturing, to align business objectives with customer requirements and improve performance.
analysis and design of experiments	**II 573**	Apply the most important concepts and techniques for the design and analysis of experiments, emphasizing aspects related with: I when to apply each type of design, how to apply and how to do the analysis and interpretation of the results obtained by the experiment.
Six Sigma	**II 574**	Use the principles and practices of Six Sigma to be able to implement a project of this type to obtain the maximum improvement and cost reduction. Identify opportunities for improvement in work areas. Understand the steps of a DMAIC system.
Supply Chain Management	**II 586**	Analyze the elements forming a supply chain and how they interact.

MASTER IN BUSINESS ADMINISTRATION

FINANCIAL INFORMATION ANALYSIS	CP 532	Apply technical methods to analyze financial statements data into useful information and know how to interpret for decision-making.
INFORMATION MANAGEMENT	AD 512	Identify information problems, seeking innovative solution alternatives based on best practices, develop business cases in which the problem and proposed solutions are considered in terms of management, organization and technology.
ORGANIZATIONAL BEHAVIOR	AD 553	Analyze behavior from the perspective of organizational architecture, considering them as an indispensable "social cement" to build organized collective action and defining power games and culture as the (co) producers to the formal structure.
ECONOMICS FOR MANAGEMENT	AD 514	Identify the socio-economic problems and especially those that result in variables of decision making in the workplace by applying the microeconomic and macroeconomic analysis and thus visualize areas of opportunity in terms of economic processes.
COST STRUCTURE	CP 512	Manage the concepts of production costs of an industry to be able to make decisions based on costs of production, operation, and management of a company.
MARKETING MANAGEMENT	AD 517	Design action strategies to sell goods or services efficiently and effectively and to exercise adequate managerial control over all phases of implementation of such commercial strategies.
STATISTICAL ANALYSIS IN BUSINESS	AD 503	Identify and manage the most important statistical techniques in different business areas with emphasis on computer use.
ANALYSIS OF INTERNATIONAL MARKETS	NI 560	Identify major business opportunities to introduce or launch new areas of opportunity and growth in organizations.
STRATEGIC COST ANALYSIS	CP 522	Relate the information appropriate to choose the strategy of the company, through an analytical scheme.

STRATEGY SIMULATIONS SEMINAR	**AD 578**	Analyze the role of simulation tools in strategic business processes and simulate different scenarios to understand the effect of different trading strategies on the profitability of the company.
HUMAN RESOURCES DEPARTMENT	**AD 537**	Distinguish selection, recruitment and hiring processes to include workers in an organization, their development and training, as well as ways to separate and motivate human beings within the workplace.
SOCIAL RESPONSIBILITY OF THE COMPANY	**AD 579**	Build a theoretical and practical scheme to guide the design of an annual report on social responsibility for a company that is socially responsible to promote an ethical attitude in the administrative profession.
OPERATIONS STRATEGIES	**AD 584**	Recognize the role of operations strategy in the development of enterprise competitiveness and learn the strategic areas of decision over the company operations to be able to rethink strategies in business operations.
FINANCIAL PLANNING AND CONTROL	**CP 530**	Use the theory and nomenclature of financial analysis in a modern and updated version to take informed decisions.
FINANCE ELECTIVES		
CORPORATE STRATEGY	**AD 570**	Review the main conceptual, methodological and technological tools for the development of the strategy in an organization.
FINANCIAL ADMINISTRATION	**CP 535**	To be able to dimension the financial and administrative perspective in the organizations, recognize the basic tools of financial analysis and planning, the asset and financial structure as well as the working capital management to develop improvements in financial processes.
INTERNATIONAL FINANCIAL DEPARTMENT	**NI 537**	Identify key decision areas of international financial departments and the analytical and problem solving tools to propose strategies for improvement.

CORPORATE FINANCE	CP 551	After familiarizing students with financial markets and their interaction with companies, they should propose investment alternatives, both in fixed and variable income securities, to optimize the performance of investors through efficient planning and financial control
BUSINESS LEGAL FRAMEWORK	CP 557	Know and deepen the concepts of Mexican foreign trade operations and international contracts, apply the principles of international commercial contracts, to determine the legal framework applicable nationally and internationally, the legal framework for foreign investment , and the advantage of international commercial arbitration.
FINANCIAL MARKETS	EC 544	Learn how global financial systems operate, with the influences of trade and financial transactions, as well as development of economies under the global needs. Establish strategies for the inclusion of companies according to today's financial markets.
MARKETING ELECTIVES		
CORPORATE STRATEGY	AD 570	Review the main conceptual, methodological and technological tools for the development of the strategy in an organization.
CONSUMER BEHAVIOR	MK 520	Identify the needs, motivations and interests of the human being as a consumer. Know and diagnose the consumer to develop a marketing plan.
MARKET RESEARCH	MK 531	Explore the market trends and deepen its understanding to increase relevant information for the decision process about marketing.
INNOVATION OF PRODUCTS AND SERVICES	MK 541	Analyze the supply of goods or services of the organization, to make appropriate decisions on abandonment, modification or creation and commercialization of new product lines or services with which the organization can compete successfully in its target market.
INTERNATIONAL MARKETING DEPARTMENT	NI 535	Generate marketing strategies within an international context, using tools for strategic analysis and decision making.

MARKETING OF SERVICES	MK 522	Monitor service companies to adjust goals and marketing strategies according to their objectives and plan and implement marketing strategies in organizations that sell services.
INTERNATIONAL ELECTIVES		
CORPORATE STRATEGY	AD 570	Review the main conceptual, methodological and technological tools for the development of the strategy in an organization.
INTERNATIONAL MARKETING DEPARTMENT	NI 535	Develop the ability to formulate marketing strategies within an international context, using tools for strategic analysis and decision making.
INTERNATIONAL HUMAN RESOURCES DEPARTMENT	NI 536	Apply human resources departments knowledge in an international context. Identify the main dilemmas and challenges faced by professionals in this area. In addition, develop the necessary skills to be able to diagnose problems related to the international human resource management and to develop strategic solutions.
INTERNATIONAL FINANCIAL DEPARTMENT	NI 537	Analyze the main decision areas of the International Financial departments and analyze problem solving tools.
MULTICULTURAL DEPARTMENT	NI 538	Analyze multicultural issues of international businesses and develop social skills to lead international companies.
INTERNATIONAL OPERATIONS DEPARTMENT	NI 539	Analyze the main decision areas of International Operations departments of a company and theoretical guidelines for analysis and problem solving.
HUMAN RESOURCES ELECTIVES		
CORPORATE STRATEGY	AD 570	Review the main conceptual, methodological and technological tools for the development of the strategy in an organization.
MANAGEMENT BY COMPETENCIES	AD 518	Distinguishing processes and management skills analysis and job descriptions under the competencies approach.
LABOR LAW, BENEFITS AND ENTITLEMENTS	DE 514	Distinguish legislation governing relations between employers and workers, as well as the rights and obligations of each party

RECRUITMENT AND SELECTION	AD 561	Develop skills for effective recruitment, using the most appropriate measurement tools for each case.
FORMATION AND DEVELOPMENT	AD 571	Design programs as well as development and training plans for a company based on their needs and requirements.
CAREER AND SUCCESSION PLANNING	AD 595	Design the development plans for each individual as well as replacement processes required by the organization, based on the level of development of the company and the maturity of its workers.
PROJECT MANAGEMENT ELECTIVES		
CORPORATE STRATEGY	AD 570	Review the main conceptual, methodological and technological tools for the development of the strategy in an organization.
FINANCIAL PLANNING FOR INVESTMENT PROJECTS	CP 540	Distinguish the sequence in the preparation of an investment project and the tools required to prepare the market and technical analyses , along with the projected financial statements.
RISK ANALYSIS	CP 552	Learn and apply different methods and risk analysis techniques associated to an investment project.
PROJECT CONTROL DEPARTMENT	CP 554	Manage projects effectively and appropriately through a comprehensive methodology, consistent and valid for all types of projects, including organizational, technical and human aspects.
PROJECTS FINANCIAL EVALUATION	CP 541	Apply and interpret the financial technology to investment project evaluation as a key support for decision-making.
PROJECT FINANCING	CP 553	Differentiate and choose the most appropriate conditions for the project to be being able to identify quantitative requirements, terms and conditions of the financing sources of funding.
INFORMATION TECHNOLOGIES ELECTIVES		
CORPORATE STRATEGY	AD 570	Review the main conceptual, methodological and technological tools for the development of the strategy in an organization.
MODELING AND DESIGN OF INFORMATION SYSTEMS	IS 510	Control the software structure through knowledge of the conceptual and technological elements that will allow the student to communicate with computer specialists and to represent the processes and structures that originated that software.

POLICIES AND STRATEGIES FOR INFORMATION TECHNOLOGY	AD 558	Analyze the main strategic issues in managing information resources of the company, such as the incentives to innovate, the forms of competition influenced markets by using information technologies, the decisions on resource allocation, and the administrative elements that determine the diffusion of new technologies.
ELECTRONIC BUSINESS	AD 559	Develop a conceptual framework of the technology and the Electronic Business elements that will prepare students to develop strategies involving electronic business processes and infrastructure of the company.
KNOWLEDGE MANAGEMENT	IS 500	Develop the skills to manage knowledge in organizations to assess the strategic importance of it.
BUSINESS INTELLIGENCE	AD 562	Apply the concepts of Business Intelligence in the development of technological solution proposals for companies from the analysis of company data and extracting some intelligence or knowledge that it has.

MASTER IN INFORMATION TECHNOLOGY MANAGEMENT

ORGANIZATIONAL BEHAVIOR	AD 553	Learn the organizational behavior and the impact on performance. Also learn to regulate organizational behavior considering the beneficial or harmful consequences it has for meeting objectives and to implement strategies intended to promote collective action organized into a productive culture.
INFORMATION MANAGEMENT	AD 512	Identify concepts, tools and techniques for managing information within an organization, primarily using the Internet / Intranet. Above all we wish to provoque an innovative attitude when facing changes and the technological complexity found in today's world.
COST STRUCTURE	CP 512	Handle the concepts of the cost of production of an industry, and the use of decision-making based on production costs, operation and management of a company.
STATISTICAL ANALYSIS IN BUSINESS	AD 503	Apply the techniques of descriptive and inferential statistics to the analysis and solution of business problems, aimed at making accurate and informed decisions.

TELECOMMUNICATIONS AND COMPUTER NETWORKS	**TI 503**	Apply computer networks interconnectivity technologies and telecommunication protocols including mobile environments, optical communication and safety of information security.
TECHNOLOGY PROJECT MANAGEMENT	**TI 504**	Develop technology project management to acquire excellent quality technology products ensuring cost optimization. Also, take advantage of current information technologies and project management methodologies for hardware and software.
MODELING AND DESIGN OF INFORMATION SYSTEMS	**TI 505**	Know and apply the methods for modeling software, following a formal development process.
HUMAN RESOURCES	**AD 537**	Learn the selection, recruitment and hiring processes to include personnel in an organization, considering their training and development, forms of separation and motivation of human beings within the workplace.
KNOWLEDGE MANAGEMENT	**IS 500**	Develop the skills to manage knowledge in organizations to assess the strategic importance of it.
DATA MANAGEMENT	**TI 502**	Identify, evaluate and compare technology used in building information systems. Also, know how to use information management systems such as Database Management Systems (DBMS) and the associated technology to manage and export databases and documents on the Internet.
INFORMATIC SECURITY	**TI 510**	Identify and solve the cybersecurity problems a from computer systems and information management within the organization. Learn the basics of computer security techniques. Identify policies and strategies that can be implemented within a company and its management implications.
SOCIAL RESPONSIBILITY OF THE COMPANY	**AD 579**	Manage the professional ethics to make decisions that have a corporate responsibility perspective.

ENTERPRISE RESOURCE PLANNING SYSTEMS	II 587	Know the structure of ERP systems and how these systems integrate information from the supply chain to make better decisions and gain competitive advantages in the market. The student will know the benefits derived from the implementation of a Enterprise Resource Planning (ERP) software. So you will be able to develop and drive the project installation and use of the system in a company.
OPERATIONAL STRATEGIES	AD 584	Develop operational strategies to increase the competitiveness of companies and strengthen strategic decision areas on the operations of the company.
PROJECT CONTROL DEPARTMENT	CP 554	Manage projects effectively and appropriately through a comprehensive and consistent methodology, valid for any type of projects, including organizational, technical and human aspects.
ELECTRONIC BUSINESS	AD 559	Develop strategies involving electronic business processes and infrastructure of the company.
STRATEGY SIMULATION SEMINAR	AD 578	Learn the role of simulation tools in strategic business processes. Be able to simulate different scenarios to understand the effect of different operational strategies on the profitability of the company.
BUSINESS INTELLIGENCE	AD 562	Learn the business intelligence and its importance for companies. Business intelligence can be defined as the process of analyzing company data and extract some intelligence or knowledge from them. It consists of a set of methodologies, applications and technologies to collect, refine and transform data from transactional enterprise systems to a structure suitable for exploitation, analysis and/or conversion to knowledge to support decision-making.
CORPORATE STRATEGY	AD 570	Know and apply the main conceptual, methodological and technological tools for the development of the strategy in an organization.
POLICIES AND STRATEGIES FOR INFORMATION TECHNOLOGY	AD 558	Analyze the main strategic issues in managing information resources of the company to develop information technology strategies.

MASTER IN QUALITY OF ELECTRONIC SYSTEMS

ANALYSIS OF SIGNALS AND SYSTEMS	**IE 530**	Know and use the methods of signal analysis and systems, both as discrete and continuous systems.
QUALITY MANAGEMENT	**II 571**	Know a solid foundation of probability theory and statistical theory and argue the significance and importance of both in solving real problems.
DIGITAL SYSTEMS	**IE 531**	Design digital systems with programmable logic and VHDL (Very high speed integrated circuits (VHSIC) Hardware Description Language). Furthermore, to develop digital systems based on FPGAs and digital signal processors (DSPs).
PROBABILITY AND STATISTICS	**AE 540**	Know and apply the techniques of statistics and probability, to the analysis and solution of business problems to be able to learn to make informed decisions.
DIGITAL SIGNAL PROCESSING	**IE 532**	Apply design techniques to approximate the frequency response and obtain the transfer function Linear Systems and Time-Invariant (LTI) in discrete time. Implement digital processing systems using different topologies.
PLANIFICATION AND CONTROL OF THE PRODUCTION	**II 582**	Use the necessary tools to be able to schedule production based on strategic planning to develop and control a master production plan.
INDUSTRIAL AUTOMATION	**IE 533**	Analyze and evaluate technologies, materials, systems and procedures that automation offers technicians to improve the productivity of their manufacturing processes, from the point of view of the machine infrastructure and processes.
ANALYSIS AND DESIGN OF EXPERIMENTS	**II 573**	Identify the most important concepts and techniques for the design and analysis of experiments, emphasizing aspects related to: when to apply each type of design, how to apply it and how to do the analysis and interpretation of the results obtained by the experiment.
COMMUNICATIONS SYSTEMS	**IE 534**	Identify the fundamental concepts of digital data communication as well as the process of design and globally operate a wireless local area network (WLAN), metropolitan (WMAN) and extended (WWAN). Recognize the fundamental concepts of the wireless networking protocols Bluetooth and Wi-Fi.

SIX SIGMA	II 574	Know the principles and practices of Six Sigma to be able to implement a project of this type to obtain the maximum improvement and cost reduction. Identify opportunities for improvement in work areas and understand the steps of a DMAIC system.
INDUSTRIAL AND AUTOMOTIVE NETWORKS	IE 535	Recognize the most important comparative characteristics of TTP, FlexRay, MOST, CAN, and LIN protocols, as well as the fundamentals of two of the most important protocols for electronic applications of automotive networks, called X-by-Wire: TTP and FlexRay.
FINANCIAL EVALUATION PROJECT	CP 541	Apply and interpret the financial technology of investment project evaluation as a key support for making decisions.
MEASUREMENT SYSTEMS	IE 536	Identify and apply knowledge-based techniques and fundamentals of diffuse logic for the design of control and computerized decision-making systems.
STRATEGIC COST ANALYSIS	CP 522	Identify and apply the bases to relate information to choose the appropriate business strategy through an analytical framework.
INDUSTRIAL ELECTRONICS	IE 537	Analyze and design power electronic converter circuits applied to the solution of industrial problems of efficient use of electricity in process control.
CORPORATE STRATEGY	AD 570	Identify and implement the main conceptual, methodological and technological tools for the development of the strategy in an organization.
SWITCHED SYSTEMS	IE 538	Know and use the basics of power electronics at high frequency, the basic structures, major problems, and new technology trends. And know and practice the principle of operation of a switching power supply and its various variants and industrial applications aimed at saving electricity.
INTELLIGENT SYSTEMS	IE 580	Know and apply knowledge-based techniques and fundamentals of diffuse logic for the design of control and computerized decision-making systems.
QUALITY OF ELECTRIC POWER	IE 539	Analyze the state of the art about harmonic pollution produced by power electronic circuits. the student will learn the harmful effects of this phenomenon, and recent techniques to solve them. and also will study the effects produced by motors and power electronic systems of an industry in its electric systems.
FINAL PROJECT	IE 595	Apply the knowledge gained throughout the program courses to raise a final project tailored to the needs of your work environment.

MAESTRÍA IN LEARNING SCIENCE

PHILOSOPHY OF EDUCATION	ED 569	Analyze the educational phenomenon from ontology, axiology and epistemology.

PEDAGOGIES CONTEMPORARY	**ED 570**	Reflect and consider the theories that have determined the most important pedagogical practices of the twentieth century so the participant can develop its own theoretical and practical perspective as an educator.
EDUCATION IN VALUES	**ED 529**	Design teaching and learning processes that incorporate axiological training and encourage the development of skills so the students can learn to live together based on the understanding of the different educational models of current values .
DEVELOPMENT OF THINKING SKILLS	**ED 502**	fully understand the human dynamics that make up the complex thought through the development of critical and creative thinking skills.
TEACHING ETHICS	**ED 555**	Create a space for reflection and discussion on various ethical positions in the current context and the ethical implications of teaching, in the development of its students, the institution and the community they serve with their professional activity and from these different perspectives.
TEACHING LEADERSHIP AND LEARNING COMMUNITIES	**ED 557**	Identify the unique nature of leadership, the roles that teachers play in decisions, the way they plan, support and participate in learning linked to school improvement.
NEUROSCIENCE FOR EDUCATORS	**ED 510**	Prioritize the key elements of neural development, and review the brain systems involved in reading, hearing and speech. Learn about biological and environmental factors that impede learning and the effects of science-based instruction in the brain development and in learning.
CHILD PSYCHOLOGY AND ADOLESCENCE	**ED 511**	Distinguish the most important theories and models for the study and explanation of the psychological development of children and adolescents, emphasizing the cognitive study, moral, social and development of personality, with a specific focus on Infant-family relations, the social interactions of children, the parent-teen conflict and the cultural and ethical factors relevant to psychological development.

COGNITIVE PROCESSES	ED 512	Contrast the various theoretical and conceptual perspectives on cognitive processes and their influence on schooled learning, in evidence-based assessment and instructional design models.
THEORIES OF KNOWLEDGE	ED 513	Analyze the main knowledge theories of to promote purposeful learning in educational processes.
TEACHING STUDENTS WITH SPECIAL EDUCATIONAL NEEDS	ED 514	Generating activities to improve the performance of students with different abilities and other learning problems.
LEARNING AND AFFECTIVE PROCESSES	ED 515	Understand the affective processes and their relationship to learning and the integral development of individuals.
TEACHING READING-WRITING ELECTIVES		
APPLYING THEORY TO PRACTICE FOR TEACHING-LEARNING	ED 520	Apply current theories of learning related to teaching early literacy skills and the evidence that supports them. Evaluate the practice of teaching and learning to improve educational processes.
STRATEGIES FOR TEACHING LITERACY	ED 521	Propose and develop strategies to promote the learning of literacy according to the characteristics of the participants, by recognizing their learning levels of reading and writing that students go trough to distinguish their expressive forms, as well as their progress in reading and writing.
INSTRUCTIONAL DESIGN IN TEACHING LITERACY	ED 522	Develop and implement lesson plans that facilitate the learning of Literacy.
EFFECTIVE TEACHING OF WRITING	ED 523	Produce an effective early writing instruction, taking into account the research related to this topic. With emphasis in the critical analysis, the evaluation and development of teaching writing in the following areas: (1) The instruction of manual writing, (2) the teaching of spelling, (3)The teaching of grammar, (4) The writing of paragraphs, (5) Group editing, and (6) evaluation, remediation and differentiation of instruction.
DESIGN LEARNING MATERIALS FOR LITERACY	ED 524	Develop strategies for the development of teaching materials designed to facilitate the learning of literacy. Also to know the various means used in teaching literacy.
ASSESSMENT OF LEARNING LITERACY	ED 525	Design assessment strategies for learning literacy.
TECHING MATH ELECTIVES		

EARLY DEVELOPMENT OF LOGICO-MATHEMATICAL THOUGHT	ED 540	Design teaching strategies that facilitate the development of the logico-mathematical thinking in childhood, based in theories, methodologies and research.
EFFECTIVENESS IN TEACHING MATHEMATICS	ED 541	Develop effective strategies for teaching mathematics and identify the most successful models of education for different educational levels.
SKILLS DEVELOPMENT FOR LEARNING MATHEMATICS	ED 542	Incorporate strategies to teaching and learning processes that foster the development of critical and creative thinking skills and facilitate learning of mathematics.
MATERIAL DESIGN FOR LEARNING MATHEMATICS	ED 543	Design, develop and use teaching materials that support teaching and learning of mathematics at different educational levels.
EVALUATION OF LEARNING MATHEMATICS	ED 544	Design and implement strategies to assess learning of mathematics.
CONSTRUCTIVIST STRATEGIES FOR LEARNING MATHEMATICS	ED 545	Design teaching and learning processes properly supported on the principles of constructivist theory and methodologies and strategies that flow from it.
TEACHING SCIENCE ELECTIVES		
TEACHING SCIENCE	ED 590	Plan the teaching of science based on the concept of discovery learning and its relationship with affective, ethical and aesthetic.
EFFECTIVENESS IN SCIENCE INSTRUCTION	ED 591	Design effective instructional strategies based on models for teaching science.
INSTRUCTIONAL DESIGN IN SCIENCE EDUCATION	ED 592	Design plans and lessons based on the principles of instructional design related to science education.
DESIGN MATERIAL FOR SCIENCE TEACHING	ED 595	Design teaching materials to support the teaching and learning of science under the criteria of flexibility, creativity and efficiency.
EVALUATION AND ASSESSMENT OF LEARNING SCIENCES	ED 598	Develop effective strategies for assessing learning science.
CONSTRUCTIVIST STRATEGIES FOR LEARNING SCIENCES	ED 599	Designing learning strategies appropriate to the level of cognitive development of learners based on the constructivist theory applied to science.
ELECTIVES		

CURRICULUM, INSTRUCTION AND ASSESSMENT FOR THE IMPROVEMENT IN STUDENT LEARNING	ED 500	Implement assessment strategies, curriculum and instruction to improve student achievement through the development of skills in the aligning of the curricula, with the instruction and evaluation methods of the current educational standards.
METHODOLOGIES FOR BUILDING KNOWLEDGE IN THE CLASSROOM	ED 503	Design constructivist learning environments that encourage the construction of significant knowledge and free negotiation of meaning.
INSTRUCTIONAL DESIGN	ED 504	Analyze different theoretical and methodological models of instructional design for planning, development and evaluation of the instructional process.
THEORIES AND RESEARCH IN TEACHING STUDENTS WITH SPECIAL EDUCATIONAL NEEDS	ED 505	Analyze demographic and socioeconomic trends that can be seen in school performance data at national and international levels and to review current data available about the effectiveness of educational initiatives and the different theories of child development and teaching children.
LEARNING ASSESSMENT	ED 507	Recognize the different strategies for measuring student achievement and attitudes, as well as concepts and procedures necessary to issue value judgments based on the results of the educational phenomenon.
TECHNOLOGY AND MEDIA TO FACILITATE LEARNING	ED 508	Master the tools to maximize student learning through the effective use of technology and media. Evidence-based practices are emphasized.

MASTER IN PUBLIC COMMUNICATION

COMMUNICATION THEORIES	CO 513	Identify the Theoretical trends and its main exponents to interpret the research of mass media communications.
SEMINAR OF RESEARCH AND CONSULTING	CO 518	Properly implement sustainable projects that meet the needs of the customer.
SOCIAL THEORIES FOR COMMUNICATION	CO 511	Categorize the different theoretical perspectives of communication to properly interpret the political and social processes of the country.
EPISTEMOLOGY AND METHODOLOGY OF SOCIAL SCIENCES	CO 515	Apply the methodology of the social sciences in each of the areas of communication to generate identification factors with the public opinion.
PUBLIC COMMUNICATION THEORIES	CO 522	Employ the appropriate communication style to generate interesting information in the various social sectors to generate a public opinion

SEMINAR ON COMMUNICATION AND DEMOCRACY	CO 521	Interpret the theoretical currents of democracy to develop the study of communication from the political, social and cultural sphere.
GLOBALIZATION AND MEXICAN POLITICS	CO 524	Develop strategies to address the socio-political problems of Mexico and its links with globalization from the focus of the media.
RIGHT TO INFORMATION	CO 527	Analyze and apply the legal basis of the right to information in different media.
QUANTITATIVE METHODS OF COMMUNICATION RESEARCH	CO 525	Apply quantitative research processes of social sciences to evaluate the media on its role in society.
GLOBALIZATION AND PUBLIC COMMUNICATION	CO 530	Diagnose the influence of mass media in the process of democratic transition and consolidation of political, social and cultural systems of the nations.
PUBLIC COMMUNICATION SYSTEMS	CO 534	Develop strategies for information and public communication systems aimed at fostering citizen participation in social decisions.
QUALITATIVE METHODS OF COMMUNICATION RESEARCH	CO 535	Apply the ethnographic method to the communication studies to measure their impact on society.
CIVIL SOCIETY AND COMMUNICATION	CO 537	Identify the media used by the civil society to organize and convey their concerns to the general public.
COMMUNICATION AND PUBLIC POLICY	CO 543	Design strategies for information and public communication systems aimed at promoting government policies.
COMMUNICATION AND SOCIAL CHANGE	CO 541	Implement communication strategies within the framework of social improvement programs to achieve the sustainable growth of the community.
CORPORATE IMAGE BUILDING	CO 540	Use the elements of the corporate image within organizations to provide quality services to the customer.
SEMINAR OF SOCIAL COMMUNICATION AND PARTICIPATION	CO 546	design public communication systems focused on promotion and social participation in various government programs.
THESIS I	CO 538	Develop professional research projects in public communication

SEMINAR OF POLITICAL MARKETING	CO 545	Implement mass communication strategies to design an election campaign in Mexico.
THESIS II	CO 548	Prepare a professional research project on issues of public communication.

MASTER IN INTERNATIONAL TRADE LAW

THEORY OF INTERNATIONAL TRADE	DE 547	Analyze the area comprising the international economy, the importance of international trade within it, the explanatory theories of International Trade inter- and intraindustry, the importance of the movements of international factors, the regional and international economy and trade policy.
INTERNATIONAL TREATIES	DE 502	Analyze the impact of international treaties in Mexico, how are they regulated, what is their hierarchy within Mexican law, and analyze specifically what international trade treaties Mexico has signed with other countries, and how they are regulated.
INTERNATIONAL TRADE OF GOODS	DE 548	Employ an international sales contract, the legal consequences for failing to meet the minimum requirements of its composition, analyze the rights and obligations of the seller and the buyer, analyze the breach liabilities for any of the parties, The legal resources accessible to the involved parties, analyze how international conventions regulate contracts and the intervention by Mexican law.
WORLD TRADE ORGANIZATION	DE 504	Analyze the impact of international treaties in Mexico, how are they are regulated, which have hierarchy within Mexican law, and analyze specifically which international trade treaties Mexico has signed with other countries, and what do the treaties regulate.
MEXICO'S TRADE POLICY	DE 505	Analyze the evolution of trade policy carried out by Mexico and how it evolved from a protectionist policy to an open trade policy.
INTERNATIONAL FREIGHT TRAFFIC	DE 506	Use cargo freight as a result of international purchases and sales, and relate the conditions of the contract of sale with contracts of carriage by the different types of traffic and consider different elements to determine the logistics in international trade.

MEXICAN CUSTOMS LAW	**DE 507**	Analyze how the Customs Law and related laws regulate the activities carried out by the subjects of foreign trade, from the customs clearance of goods to the provisions applicable to customs procedures and the powers of the authorities in the performance of their duties.
CONTRIBUTIONS TO FOREIGN TRADE	**DE 508**	Identify the relationship of the foreign trade with the various tax provisions in Mexico in the field of contributions and analyze and implement existing contributions to foreign trade and its payment methods, upgrades and surcharges.
GOODS TRADE INTERNATIONAL REGULATION	**DE 509**	Analyze the impact of international treaties in Mexico, how are they are regulated, which have hierarchy within Mexican law, and analyze specifically which international trade treaties Mexico has signed with other countries, and what do the treaties regulate.
ADMINISTRATIVE LAW	**DE 510**	Analyze the fundamental concepts about procedures in fiscal and administrative matters, acts of authority and means of defense exists for declaring invalid the illegality of an administrative decision.
PAMA AND VERIFICATION POWERS OF CUSTOMS ADMINISTRATION	**DE 511**	Analyze all the acts provided for in the Customs Act, which carries out the customs authority to determine whether they complied with the obligations under the law such as the payment of taxes and compensatory fees. Also analyze the provisions that authorities must follow and respect when imposing appropriate sanctions, if any, on foreign trade.
REGULATING INTERNATIONAL TRADE IN SERVICES	**DE 512**	Apply the liberalization of services, the influence of the GATT and as regulated under the WTO. Study comprising the General Agreement on Trade in Services and that form has been regulated services sector under Regional Agreements.
AGREEMENTS ON TRADE DEFENSE MEASURES (ANTIDUMPING, SUBSIDIES AND SAFEGUARDS)	**DE 513**	Distinguish the Agreements on trade defense measures under the world trade organization, such as anti-dumping, subsidies and countervailing measures for safeguard measures.
MEANS OF PAYMENT IN INTERNATIONAL TRADE	**DE 514**	Analyze how existing payment instruments for international commercial transactions, operating and financing options and risks are taken.

RELATED INTELLECTUAL PROPERTY RIGHTS TRADE	DE 515	Analyze the principles set out in the TRIPS Agreement such as National Treatment, Most Favored Nation Minimum Protection Exhaustion of Rights, among others, and their relationship and differences with NAFTA as regional agreement.
FOREIGN INVESTMENT AND INVESTMENT MEASURES AFFECTING TRADE	DE 516	Analyze the impact of international treaties in Mexico, how are they are regulated, which have hierarchy within Mexican law, and analyze specifically which international trade treaties Mexico has signed with other countries, and what do the treaties regulate.
INTEGRATION LAW	DE 517	Analyze the characteristics and principles governing regionalism, the difference between open regionalism and regionalism in its infancy, the integration processes in the Americas, Europe, Africa and analyze the advantages and disadvantages of economic integration and study the characteristics of the most important regional blocs at the present time.
ARBITRATION AND INTERNATIONAL TRADE	DE 518	Analyze the legal nature of international commercial arbitration, the elements of the arbitration agreement, the arbitri lex, the rules applicable to the contract and the arbitration clause, the role of arbitrators in the process, and the circumstances under which they may be denied recognition and execution based on the New York Convention.
TRADE AGREEMENTS SIGNED BY MEXICO	DE 519	Establish the impact of international treaties in Mexico, as they are regulated, what hierarchy treaties have in Mexican law and deeply understand the international trade treaties.
DISPUTE SETTLEMENT IN THE WTO AND TRADE AGREEMENTS SIGNED BY MEXICO	DE 520	Recognize the dispute settlement mechanism established within the Understanding on Rules and Procedures Governing the Settlement of Disputes in the WTO, focusing on the development of this mechanism from the GATT rules.

MASTER IN FOOD DEVELOPMENT AND CONSERVATION

BIOCHEMISTRY	DC 500	Describe and analyze the physicochemical characteristics, function and interactions of biomolecules, substantiate the methodology used for study.
QUANTITATIVE CHEMISTRY	DC 505	Identify principles of analytical chemistry, describe and analyze how they are applied in chemistry and related disciplines, as well as in the life and health sciences.

STATISTICS	**DC 520**	Identify the basic terminology used in the statistics, frequency tables and their interpretation, calculate probabilities of events and solve practical problems associated with random variables and establish their probability distributions, means and variances for both discrete and continuous cases. Distinguish the different sampling distributions for both large and small samples. Estimate population parameters using point estimators and confidence intervals to interpret the results. Make inferences about population parameters by testing hypotheses and interpret their results.
FOOD MICROBIOLOGY	**DC 510**	Analyze the importance of microorganisms in relation to food spoilage and its prevention. Also identify the importance of microorganisms in relation to the sanitary quality of a product. Distinguishing the importance of microorganisms as the cause of diseases related to food consumption.
FOOD CHEMISTRY	**DC 515**	Identify and describe the fundamental principles of the major chemical changes that occur in foods or benefiting or deteriorating them as well as aspects of the functionality of its components and their influence on the physical, chemical, nutritional and organoleptic of food.
FOOD ANALYSIS	**DC 540**	Identify and analyze the main methods used to quantify the food components so that allow selection of that one that is most appropriate to make some determination in a given situation; make changes without affecting the accuracy of the results; and manage data and results.
PACKING	**DC 545**	Describe the theoretical and practical aspects on the selection and use of food packaging. Analyze the role of packaging in preserving quality characteristics of food.
FOOD TECHNOLOGY AND PROCESSES I	**DG 535**	Apply the theoretical and practical aspects of the processes of food preservation in which solute are added and/or modified by means processes or other methods: fermentation, curing and sausage, smoked, salted, sweetened and packaged.
FLUID RHEOLOGY AND PHYSICAL PROPERTIES OF FOOD	**DC 550**	Identify the physical properties of food (PPF) of interest in quality control / design of equipment / conservation processes and analyze the meaning of the values and units of the PPF. Identify the basic principles governing changes in PPF, including rheological (RP), evaluate the effect of such changes on the characteristics or factors thereof. Use software, databases or predictive models of PP and PR of food.
FOOD TECHNOLOGY AND PROCESSES II	**DC 580**	Identify the elements that have conditioned the development of food preservation technology, as well as the theoretical and practical concepts underlying the new processing and conservation trends.
FOOD MICROBIOLOGY LAB	**DC 511**	Apply laboratory techniques to determine the microbial content of food samples. Handle samples and prepare microbiological culture media. Interpret and analyze the effect

		of various physical and chemical conditions on microbial growth.
FOOD ANALYSIS LAB	**DC 541**	Apply different methods for quantifying food components to analyze and discuss the results, evaluate the methods used and recommend most suitable depending on the sample and the purpose of analysis, and draw conclusions regarding the characteristics of such methods.
DESIGN OF INDUSTRIAL EXPERIMENTS	**DC 560**	Apply knowledge of different experimental designs and interpret the results. Use the statistical methodology required for the collection, analysis and interpretation of all data coming from systematic observations or experimental projections designed to test the effects of one or more factors involved in the phenomena under study.
QUALITY ASSURANCE	**DC 565**	Interpret and use the food quality attributes, the assessment techniques and methodologies for hazard analysis and critical control points (HACCP).
SENSORY FOOD ANALYSIS	**DC 570**	Argue the theoretical and practical elements related to the senses and sensory impressions generated by food as a whole. Also describe and apply some of the methods and techniques of sensory evaluation in the food area and analyze data using tables and/or statistical computer packages to generate conclusions.
LEGISLATION AND REGULATIONS	**DC 575**	Identify and interpret national and international laws regulating the food industry and the principles on which food preservation is based on the addition of additive. Describe and analyze the principles of irradiation disinfection (sanitation), water supply and waste disposal.
PHYSICOCHEMICAL CHARACTERISTICS OF FOOD	**DC 555**	Describe and analyze the concept of water activity, its control and influence on the physical, chemical and biological deterioration of food, and the use of the kinetic principles to optimize handling, processing and storage of food . Analyze the principles involved in the chemistry of colloids, the fabrication of food foams, sols, gels and emulsions, as well as factors affecting its stability.
NUTRITION	**DC 585**	Identify and demonstrate the importance of food as supplier of nutrients required for proper functioning of the human organism.
GRADUATION PROJECT I	**DC 586**	Pose a problem to be solved within the development and conservation of food thematics that reflects the ability of the student to present his preliminary degree.

LAB OF PHYSICOCHEMICAL CHARACTERISTICS OF FOOD AND SENSORY EVALUATION	DC 556	Apply the principles involved in processing, handling and storing of food which has reduced water availability, emphasizing the physicochemical properties of water and water activity effects as well as other variables (temperature, pH) in the deterioration kinetics. Identify food systems and their properties when in gel, foam, emulsion.
UNITARY OPERATIONS AND PROCESSES IN FOOD	DC 590	Analyze the basic momentum transfer phenomena and their application to the design team. Describe and efficiently operate the fundamentals of momentum transfer to piping design, both in transport Newtonian fluid as Newtonian and pump selection. Apply the concepts of material balance and momentum transfer, to design and implement systems stirring rheologic and momentum transfer, to design equipment operations mechanical separation properties.
GRADUATION PROJECT II	DC 591	Develop and defend the graduation project that involves solving the chosen problem.

MASTER IN INFORMATION DESIGN

SEMIOTICS	DV 501	Apply the fundamentals of the general theory of signs and its ramifications in the analysis and configuration of visual messages.
INTERACTION AND COLLABORATION	IS 526	Design, implement and evaluate user interfaces and collaborative systems using the concepts of Human-Computer Interaction (HCI) and Computer Supported Cooperative Work (CSCW).
SOCIAL COGNITION AND ATTITUDES	PS 524	Describe the various positions of social cognition and its basic principles. Apply the concepts of perception, attribution, social inference and attitudes in organizational psychology case studies.
DESIGN PROJECT MANAGEMENT	DV 531	Plan and control the necessary processes for the development of information projects. Design the directive mechanisms of the work systems of the projects.
VISUAL RHETORIC	DV 502	Apply the concepts and tools of rhetoric in the analysis and configuration of visual messages.
VISUALIZATION METHODS	DV 512	Visual information to diagnose problems and develop strategies for their solution. Apply different methods for configuring Visuals.

CONSUMER BEHAVIOR	MK 512	Identify and analyze the psychosocial factors (perception, motivation, attitudes) and environmental factors that affect consumer behavior in their process of selecting and purchasing goods and services. Propose integrated marketing strategies and/or commercialization plans for goods or services based on its design features or their distribution/promotion requirements.
QUALITATIVE EDUCATIONAL RESEARCH METHODS	ED 518	Develop research projects applying the theoretical and methodological knowledge of the qualitative research paradigm to the study of processes in the educational field.
IMAGE THEORY	DV 503	Analyze visual images by applying different theories of representation. Historically identify the different theoretical positions on the communicative uses of images and compare them critically.
DESIGN OF ELECTRONIC DOCUMENTS	DV 513	Set up electronic documents from the theories and methodologies of the Editorial Design. Analyze and evaluate electronic documents with these criteria.
IDENTITY	DV 523	Apply theories of identity in the diagnosis and troubleshooting of organizational communication. Compare the theoretical claims of cultural identity with organizational identity to generate a personal critical position.
INTEGRATION PROJECT	DV 533	Propose and develop a project that solves a problem of information from the diagnosis and evaluation with the tools acquired in the different subjects of the program.
SOCIOLOGY OF COMMUNICATION	CO 580	Analyze the historical impact of the media in society and interpret the role of design information in this area.
TECHNOLOGY AND INSTRUCTIONAL DESIGN	ED 571	Identify an instructional need in a real context, propose a research and development protocol to design, implement and propose the evaluation of the solution based on instructional design on the overall design of educational technology.
CULTURAL STUDIES OF DESIGN	DV 524	Critically compare the history and theory of design and assess the cultural impact that this activity has had on society.
FINAL PROJECT	DV 534	Develop and defend the final research project to obtain the degree.

MASTER IN TEACHING

PHILOSOPHY OF EDUCATION AND THEORIES OF KNOWLEDGE	ED 501	Analyze the educational phenomenon from ontology, axiology and epistemology perspective to understand the fundamentals of the main theories of knowledge.
DEVELOPING THINKING SKILLS	ED 502	Analyze from a comprehensive understanding the human dynamics that make up the complex thought to propose educational activities that can be developed in the classroom.
CONTEMPORARY PEDAGOGIES	ED 570	Identify the theories of the twentieth century that have determined the most important pedagogical practices; at the same time, reflect on the educational action that has prevailed in our time, so the student can take a theoretical and practical perspective as an educator.
WORKING GROUPS AND COLLABORATIVE LEARNING	ED 526	Develop critical and creative metacognitive skills, to work and learn collaboratively.
METHODOLOGIES FOR BUILDING KNOWLEDGE IN THE CLASSROOM	ED 503	Design Constructivist learning environments that encourage the construction of significant knowledge and free negotiation of meaning.
INSTRUCTIONAL DESIGN	ED 504	Develop skills to plan, develop and evaluate the instructional process based on the understanding of different theoretical and methodological models of instructional design.
RESEARCH-ACTION METHODS	ED 506	Review, select, justify and apply the approaches, methods, techniques and tools of social science research and education in the explanation and interpretation of the educational phenomenon in its various expressions.
LEARNING ASSESSMENT	ED 507	Recognize the different strategies for measuring student achievement and attitudes, as well as concepts and procedures necessary to issue value judgments based on the results of the educational phenomenon.
RESEARCH REPORT INTERPRETATION	ED 527	Apply the most common methods of analysis and interpretation of data through the recognition, presentation, classification, interpretation and inference based on theoretical and practical foundations allow students to distinguish, manipulate, compare and reorganize information to justify a decision.
LEARNING TOOLS	ED 528	Analyze and propose innovative strategies for teaching and learning incorporating the use various means to facilitate learning.

EDUCATION IN VALUES	**ED 529**	Design teaching and learning processes that incorporate axiological training and encourage the development of skills so the students can learn to live together based on the understanding of the different educational models of current values .
THE COMPUTER AS A COGNITIVE TOOL	**ED 535**	Apply constructivist pedagogy to develop thinking skills in the design of learning environments that make extensive use of Information Technology and Communication in general and in particular of the computer, in order that technology is being used as a cognitive tool by the student.
DESIGNING LEARNING ENVIRONMENTS MANAGED BY A COMPUTER	**ED 537**	Design learning environments managed by a computer, appropriate for different learning styles, through the application of modern technologies for communication of information, considering the different theories of learning and methodologies and instructional strategies appropriate for creating effective instruction .
DIDACTIC OF DISCIPLINES	**ED 538**	Review and reflect the fundamental methodological aspects of intellectual development to learn how to learn and learn to solve problems.
BEST PRACTICES FOR TEACHING	**ED 539**	Analyze successful educational models and make a proposal for a plan of concrete and immediate improvement of the teaching practice.
ANALYSIS OF EDUCATION AND ITS TRENDS	**ED 547**	Develop the ability to analyze and interpret educational processes from the point of view of social sciences, considering the relationship between education, the subjects as well as the fields of power and knowledge.
PERFECTING TEACHING SKILLS I	**ED 549**	The participants will conduct a self-analysis of their teaching skills, so that they can diagnose skills to improve and develop a plan to achieve it.
TEACHING ETHICS	**ED 555**	Reflect and discuss on the ethical implications of teaching in the development of students, the institution and the community that they serve with their professional activity, all from various ethical positions
ANALYSIS OF THE REFORM AND EDUCATION POLICY IN MEXICO AND LATIN AMERICA	**ED 554**	Make an analysis of the movement of Educational Reform in Latin America of the 90's, its rationale and main strategies, as well as the National Plan of Education of the current government to enter the knowledge of the basic concepts of the theory of the state, the process of politics and educational policy.

PERFECTING TEACHING SKILLS II	ED 559	Apply the provisions of the improvement project, developed in the previous course, to evaluate and report the results that will allow feedback from fellow students.

MASTER IN MEXICAN ANTHROPOLOGY STUDIES

PRE-HISPANIC CULTURES	AN 501	Generate a broad and synthetic vision of Mesoamerican cultural history with an appreciation of the complexity of this field of study. Assess the inherent problems of archaeological interpretations and identify how they have shaped our perception of Prehispanic cultures.
INDIGENOUS MEXICO	AN 502	Generate a taxonomy reflecting ethnic and linguistic diversity in Mesoamerica; describe the main indigenous movements of this century, and evaluate the role of diversity in a multicultural society at national level and at the level of globalization.
ANTHROPOLOGICAL THEORY AND PRACTICE	AN 503	Evaluate different anthropological thought currents as well as the methodology and techniques that characterize anthropological practice. Generate a critical focus based on the theoretical foundations of the discipline approach, develop links between different methodologies and theoretical constructions; lay the foundation for research design of an original theme.
COLONIAL MEXICO	AN 508	Develop a synthetic scheme of history and economic, political and social development of indigenous groups during the colony in Mexico. Master basic changes in human organization that occurred as a result, directly or indirectly, from the colonial experience.
NAHUATL	AN 509	Develop the ability to do a basic translation of the Nahuatl language, Classic Nahuatl texts, orthographic conventions, word composition, morphology and syntax. Develop skills in the grammatical analysis and translation of the Classic Nahuatl to be able to work with materials the Nahuatl culture.
REGIONAL SEMINAR	AN 504	Analyze the literature and specific traditions of an area of the country based on an exhaustive review of written sources and its analysis. Generate a detailed overview of the relevant literature on a geographical and cultural region of Mexico and perform a limited and focused high level investigation on some aspect of archeology or ethnology of such area.

GLOBALIZATION AND LOCAL COMMUNITIES	AN 505	Analyze the inclusion of so-called rural / indigenous "traditional economies" of Mexico in the process of globalization, and the impact of this on social and productive forms of rural and "marginalized" groups. Assess the economic phenomena, and compare the globalization process from a holistic anthropological perspective as a socio-cultural phenomenon with environmental, political, material and ideological implications.
GENDER AND SOCIETY IN MEXICO	AN 506	Assess the current discussion about gender theory; analyze the current situation of indigenous women in Mexico; model the processes of cultural re-elaboration about gender relations in ethnic populations.
ANTHROPOLOGICAL RESEARCH	AN 507	Establish and develop a research topic; pose a problem to study, develop methodological protocols and conduct empirical research; interpret field data in the form of a dissertation reporting the relevant aspects of the research and its contributions to the discipline.
PREHISPANIC ART AND IDEOLOGY	AN 512	Evaluate the different artistic traditions of ancient Mexico; analyze how these statements reflect the ideology and level of sociocultural integration of each individual culture.
SPECIAL PROJECT	AN 580	Design the research plan and protocols for the graduation project. Implement field and desk work for the research; discuss and analyze with the professor the progress and problems of the fieldwork and research in addition to the formal aspects of the document. Collect, organize and present written progress of the original investigation.
FINAL PROJECT	AN 590	Evaluate the conceptual framework of the research project selected for graduation; describe the methodology and fieldwork employed for the collection of information; synthesize and argue the original contributions of the work; present the final document and an oral exam before a jury of four.

MASTER IN CONSTRUCTION PROJECT MANAGEMENT

STRATEGIC COST ANALYSIS	CP 522	Select the strategy of the company, relating the appropriate information through an analytical framework.
LEGAL FRAMEWORK IN CONSTRUCTION	IC 532	Identify and interpret the legal precedents and provisions that influence decisively in the development and performance of projects in the construction industry.

PROVISIONAL FACILITIES AND CONSTRUCTION SAFETY	IC 546	Demonstrate the importance of mechanisms and techniques for temporary facilities within the scope of the construction industry and its application in different types of works of civil engineering.
FINANCIAL MANAGEMENT STRATEGIES	CP 534	Establish the basis for internal financial management of the company and the combination of investment resources, to achieve the highest possible efficiency.
BUSINESS ECONOMICS	AD 504	Apply knowledge of the tools and models used to analyze the company strategy, structure and human resources.
ENVIRONMENTAL IMPACT ANALYSIS	IC 560	Substantiate the control of pollution of water, soil and atmosphere as well as the implementation of environmental legislation and the environmental impact assessment of construction projects.
ORGANIZATIONAL AND PERSONNEL DEVELOPMENT IN CONSTRUCTION	IC 536	Efficiently Apply best practices of a well handled human resources department in construction companies. Support the structure of organizations in accordance with the objectives set by the company.
MARKETING MANAGEMENT	MK 521	Develop a marketing strategy that includes decisions about product / services, channels and mechanisms of promotion, pricing and communications, to meet the needs of their target markets.
CORPORATE STRATEGY	AD 570	Identify and implement the main conceptual, methodological and technological tools for the development of the strategy in an organization.
CONSTRUCTION MATERIALS AND EQUIPMENT MANAGEMENT	IC 528	Efficiently manage the materials and equipment involved in the development of construction projects.
ORGANIZATIONAL LEADERSHIP	AD 533	Establish the basis for proper people interaction within the company, helping to identify the concepts of leadership in the organization how to develop teamwork.
TOTAL QUALITY IN CONSTRUCTION	IC 538	Identify and apply different systems, models and tools for quality control in the construction industry and the importance of their implementation.
EVALUATION OF CONSTRUCTION PROJECTS	IC 516	Identify the various components of a construction project and analyze its economic, social, environmental risk and feasibility.
PRODUCTIVITY IN CONSTRUCTION	IC 524	Identify and apply different systems and time and motion models to improve productivity in construction processes or procedures that can have an impact on reducing costs and time without compromising quality.

CONSTRUCTION PLANNING AND CONTROL	IC 526	Provide de bases and analyze the construction management, the methods used in planning, scheduling and control of construction projects as well as the impact of risk management in construction projects.
DECISION MAKING IN CONSTRUCTION MANAGEMENT	IC 544	Describe and apply the most common techniques for decision making that identifies a problem or opportunity to select the best solution or to upgrade the opportunity.
PROJECT FINANCING	CP 553	Distinguish between different sources of funding those best suited to the conditions of the project, being able to identify quantitative requirements, terms and conditions of financing.
FINAL PROJECT	IC 595	Solve a problem or project in which the student should apply the knowledge learned in the master's program under the guidance of an advisor.
ELECTIVES		
URBAN DEVELOPMENT	IC 533	Establish the relationship between the civil works in the infrastructure construction for the cities and the role of constructive projects and buildings in shaping contemporary urban processes.
REAL ESTATE INVESTMENT PROJECTS	IC 534	Analyze the various aspects involved in real estate projects from the early detection stages up to its formulation as an assessable investment project.
CONSTRUCTION CRITERIA IN FOUNDATION WORK	IC 556	Analyze the properties of soil and various types of foundations, and review the criteria for selection of the foundations and building procedures.
EARTHQUAKE-RESISTANT FEATURES IN STRUCTURES	IC 558	Identify structural elements and structural systems, evaluate the stability and degree of hyperstaticity the flat trusses headings. distinguish external actions to which constructions are exposed, the source and causes of the earthquakes, their effects on constructions, the behavior of materials and structural systems against seismic action, the seismic damage in buildings and the structuring earthquake resistant criteria.
URBAN HYDROLOGY	IC 562	Identify and evaluate the impact of urbanization in surface runoff and hydrological changes created by urbanization, model the quantity and quality of urban water, urban nonstructural and structural as well as , hydrological and hydraulic measures.

UNBAN HYDRAULICS	IC 564	Plan, analyze and design flood plains, detection/retention structures, and Support systems for Urban hydraulic decision making.

MASTER IN ELECTRONIC ENGINEERING

SIGNALS AND SYSTEMS	MA 520	Analyze and use methods of signal and systems analysis, in discrete and continuous systems. Master and apply these methods in different case studies.
DIGITAL SYSTEMS	IE 574	Design and simulate digital systems with programmable logic and VHDL (Very high speed integrated circuits (VHSIC) Hardware Description Language). Implement digital systems based on FPGAs and digital signal processors (DSPs).
RESEARCH SEMINAR I	IE 510	Design and develop a graduate thesis research project as well as the structure of the graduate thesis in Spanish or English. Generate a scientific paper or poster in Spanish and English. Write a research proposal for the registration of a graduate thesis and to the request support from institutions that finance these activities either domestic or foreign.
DIGITAL SIGNAL PROCESSING	IE 520	Analyze and evaluate design techniques to simulate the frequency response and to obtain the Linear and Time-Invariant Systems transfer function (LTI) in discrete time. Implement digital processing systems using different topologies.
LINEAR SYSTEMS	IE 540	Obtain solid foundations in linear algebra and matrix analysis (language communication, control and signal processing theory). Apply and master these foundations in understanding research articles and conduct research independently.
RESEARCH SEMINAR II	IE 511	Identify a project and a research topic so that by the end of the course the student has prepared the bibliographic research related with its thesis topic. Develop formal thesis proposal for approval by the faculty.
RESEARCH PROJECT I	IE 590	Analyze conceptually and in detail a project that allows you to apply one or more areas of engineering. Get the practical experience required to develop a project of considerable magnitude.
RESEARCH PROJECT II	IE 591	Reach the physical implementation , or giving the case, complete the investigation of a theoretical work as well as the written report and the presentation of that work before a jury appointed by the department.
ELECTIVES		

POWER ELECTRONICS	**IE 560**	To base and analyze the concepts of power electronics as an area related to instrumentation and process control, which include the analysis, design, dimensioning and construction of power electronic converters. Apply and master the concepts of power electronics to solve industrial problems of efficient use of electrical energy in process control.
ELECTRIC MACHINES	**IE 556**	Mastering the basic principles of operation and control of direct current machines, transformers and alternating current machines. Mastering different types of connection and construction of electrical machines. Control the different parameters associated with electrical machines. Integrate the concepts of design and solution of electromechanical problems under a mechatronic approach.
MEASUREMENT SYSTEMS	**IE 554**	Analyze the most representative measurement techniques in the industrial environment and use those that are most suitable for specific purposes according to a set of specifications. Apply and master this knowledge in the design of measuring instruments.
COMMUNICATIONS NETWORKS	**IE 572**	Analyze and synthesize the fundamental concepts of digital data communication, and the design process and global operation of a communications network. Apply and master the concepts in a communications network.
STOCHASTIC PROCESSES	**IE 524**	Analyze the fundamentals for Random Process analysis: fundamentals of set theory, basic axioms of probabilistic models, conditional probability and independence, discrete and continuous random variables, multiple random variables, sequences of random variables, stochastic process models, noise, ergodicity , Gaussian processes, power spectral densities. Apply the concepts of stochastic processes in real Communication Systems.
SWITCHED SOURCES	**IE 562**	Describe and analyze high frequency power electronics, basic structures, main problems, new technological trends up to the completion of a basic switched source. Apply and master these concepts in specific tasks.
POWER DEVICE CONTROL	**IE 544**	Identify and apply the techniques of modeling, analysis and design of Control Systems for the main devices used in power converters. Use and master control modeling techniques for a given task.
COMMUNICATIONS THEORY	**IE 575**	To base the formal theory of communications and analyze the capacities and limitations of the different types of communication channels, as well as the capacities, limitations and performance of the different digital modulation techniques under different conditions. Use and master the theory of communications in different case studies.

INFORMATION THEORY	**IE 576**	Analyze and evaluate the different forms of digital signals. Apply and master information theory techniques for specific tasks.
OPTICAL COMMUNICATIONS	**IE 579**	Design, identify, and test an optical communication system. You will also have the ability to detect faults, through the knowledge acquired in class. Apply and master optical communications for specific tasks.
NON-LINEAR SYSTEMS	**IE 545**	Describe and analyze the characteristic properties of non-linear systems, in contrast to those of linear systems, as well as the fundamental mathematical tools for the analysis of dynamical systems, giving special emphasis to Lyapunov's stability theory. Apply and master the techniques of non-linear systems for specific cases.
HARMONIC CONTAMINATION	**IE 564**	Argue the state of the art on harmonic pollution produced by power electronic circuits. Analyze and identify the harmful effects of this phenomenon, how to solve them and new solutions will be proposed.
DIFFUSE LOGIC AND DECISION MAKING	**IE 543**	Apply knowledge-based techniques and the foundations of Fuzzy Logic for the design of Control Systems and computerized decision-making. Use and master fuzzy logic techniques in different case studies.
WIRELESS COMMUNICATIONS	**IE 578**	Employ and evaluate the concepts and their relationships behind the field of wireless communications. Wireless communications are defined from the perspective of the wireless medium, and a general objective is to cover the design, development and construction of a wireless system from some relevant perspective (the Technology used, the Application that allows and the Users who use it), in regarding structure (Transmitter, Channel and Receiver) and its behavior. Use and master the concepts of wireless communications in different application cases.
ADAPTIVE PROCESSING	**IE 528**	Analyze and interpret the theory and algorithms used for analysis and processing of random signals: modeling of signals in the time and frequency domains, estimation of correlation and spectral density, study of the properties, algorithms and structures of optimal filters and application of techniques for the design of adaptive filters. Use and master the concepts of adaptive processing in specific cases.
WAVELETS: THEORY AND APPLICATIONS	**IE 525**	Analyze the fundamental concepts of wavelet theory, the filter bank, and Multiresolution analysis. Apply and master the main applications of wavelet theory in signal processing.

MASTER IN APPLIED LINGUISTICS

LANGUAGE AND LINGUISTICS	**LA 511**	Apply fundamental knowledge of the different theoretical approaches and methodologies of applied linguistics in its main fields of work and implement this information to delve into the area through its study, research and practical application. Master and evaluate the application of scientific theories, the relationship between theoretical linguistics and applied linguistics, the relationship between sociolinguistics and applied linguistics, the relationship between psycholinguistics and applied linguistics and application of linguistics to teaching and learning of languages. Apply Linguistic in other work fields such as language education, proficiency assessment, language planning, and the development of language programs.
FIRST LANGUAGE ACQUISITION	**LA 512**	Get a basic knowledge of child language development. Demonstrate knowledge of the processes and stages in the acquisition of the native language. Dominate issues such as how infants communicate before speaking, when they begin to use language and what factors influence the development of their native language. analyze the language acquisition stages in children two or three years old using a comparative model.
GRAMMATICAL THEORY	**LA 513**	Develop an understanding of the nature of human language and manage theoretical linguistics in its main areas. Master the basics of Chomsky tradition, especially generative grammar, and analyze the explicit system of rules, principles and restrictions that characterize human language. Describe the articulatory properties of speech sounds and transcribe words to the International Phonetic Alphabet. Demonstrate an understanding of the morphology and structure of the word itself, including the roots and affixes. Compare the sound systems of languages and identify grammatical patterns in the distribution of these sounds. Evaluate and compare the system of syntactical rules governing the formation of sentences in human language. Employ the evaluation and modification of grammatical theories to new data.
SOCIOLINGUISTICS	**LA 515**	Apply models, central concepts and terms of the study of language in its social context. Apply linguistic concepts learned in other courses of the program to the study of the use of language. Design and conduct research in a specialized area of sociolinguistics. Master the conceptual and operational of the variation in natural language in different communities. Categorize and evaluate the factors that influence the language and its variation such as gender, education, and socioeconomic class.
ACQUISITION AND SECOND LANGUAGE TEACHING	**LA 521**	Justify the choice of methods and techniques of teaching a foreign language. Generate, evaluate and adapt linguistic material in the form of courses and activities. Implement the methods studied adapting them to a group and/or student (s) specific (s).
RESEARCH IN APPLIED LINGUISTICS	**LA 524**	Apply the deep knowledge of the design of research in the field of applied linguistics and interpret the components and results of

		research studies. Critically analyze the role of research and theory in applied linguistics. Identify the differences between qualitative and quantitative research as tools. Dominate the field data collection, data analysis, research reports components and the critical interpretation and presentation of research results.
DISCOURSE AND PRAGMATICS	**LA 525**	Apply the deep knowledge of different theoretical approaches in pragmatics and the various methodologies of discourse analysis also identify the key elements for its elaboration. Apply discourse analysis and pragmatics within linguistics and language pedagogy. Analyze a variety of texts using various approaches and theories within the field of pragmatics and discourse analysis. Apply descriptions and explanations of the processes of production and comprehension of speech and interpersonal relations in context expressed in text to critically evaluate the role of discourse in society.
CURRICULAR DESIGN AND EVALUATION	**LA 526**	Develop a curriculum proposal taking into account different educational philosophies and evaluation in second language and foreign languages teaching. Design goals and specific objectives based on the evaluation of the needs of an special group. as Identify, well as, elaborate the main types and components of the different curricula. Assess the progress of students in the foreign language and effectiveness of the program depending on the focus of the curriculum. Apply specific types of program designs for second languages and foreign languages and their evaluation in real exercises and simulations.
THESIS PROPOSAL	**LA 531**	Identify, define and methodologically analyze a specific problem in applied linguistics. Apply the scientific method to investigate the problem. Develop tools and methods for use in investigating the problem. Propose and implement pilot tests for experimentation of some aspect of the thesis. Prepare and submit formal proposals to the department group for feedback. Develop the first two chapters of the thesis.
PROFESSIONAL SEMINAR	**LA 532**	Develop a practice based on the information that students have acquired in the course of the program in applied linguistics. Establish a specialty area and design an action plan with learning objectives, timetables and products. Apply the methods and techniques in the plan of action in the indicated area. Develop an action plan to actively participate and implement their knowledge in the professional area. Generate a final report where the student shows reflection, critical thinking and self-assessment of knowledge gained professional experience.
BILINGUALISM AND EDUCATION	**LA 534**	Master the meaning of the term "bilingualism" and ways to measure it. Analyze the cognitive and sociocultural aspects in the study of bilingualism. Compare differences between bilingualism in children and adults. Describe the processes and implications of the code change. Argue the use of two or more languages in formal educational contexts in different countries. Evaluate purposes and

		perceptions of bilingual education, goals, models and results of bilingual education.
THESIS	**LA 541**	Design a Research; carry out the project. Analyze the data. Evaluate the results and conclusion of the research and project started in LA 531. Present a successful defense of this thesis project.
SEMINARS		
TOPICS OF THEORETICAL AND DESCRIPTIVE LINGUISTICS	**LA 551**	Apply thorough knowledge of the specific topic of the given seminar by area of specialization and research professor such as phonology, phonetics, syntax, semantics, the universal language, linguistic typology or linguistics of the corpus. Master and implement this knowledge to delve into the area through the study, research and practical application.
TOPICS IN SECOND LANGUAGE TEACHING	**LA 552**	Interpret models and theories related to a specific topic determined by area of specialization and research professor. Develop skills in teaching grammar, materials development, development curriculum for specific purposes, evaluation and measurement in language teaching, training for language teachers, technology and media in teaching language, participatory techniques or other area decided by the teacher.
INTERCULTURAL COMMUNICATION	**LA 553**	Relate contexts, strategies and theories of learning and teaching intercultural communication. Build a practice community with members of the group. Analyze the debates on the concept of "culture", arguing the validity and usefulness of the concept. Analyze the cultural dimensions such as the values, beliefs, and dominant behaviors of social groups (with a particular focus on the cultures of Mexico and the United States). Evaluate the influences of cultural conditioning on our way to express ourselves. Compare and implement the different methods of research on culture and communication. Develop the skills to conduct ethnographic research type. Generate awareness and intercultural competence.
LANGUAGE AND COGNITION	**LA 555**	Relate depth studies and research base in the areas of psycholinguistics and cognitive psychology. Analyze studies related to the processing of language, the development and lexical representation in monolingual and bilingual speakers, the understanding and/or lexical production (including phenomena such as lexical errors, the influence inter-linguistic, code switching), the syntactical processing in speakers of one or more languages, and the conceptual semantics.
READING, WRITING, AND LITERACY	**LA 558**	Master different theories of literacy. Analyze the contributions of psycholinguistics and sociolinguistics to the study of literacy. Interpreting history literacy and analyze the importance of literacy as human invention. Evaluate models for teaching and learning of literacy in first and second language. Students should generate their own vision of the role of literacy in the study of applied linguistics.
LEXICAL STUDIES	**LA 559**	Identify the different lexical studies and develop a deep research in this area. Design the topics by specialization and research area of the professor. Relate topics with the word in the context of general

		and applied linguistics. Develop topics such as lexical semantics, learning and/or teaching vocabulary, lexicography, morphology, corpora linguistics, and the sociolinguistics and lexical variation in Mexico.

MASTER IN CLINICAL PSYCHOLOGY

PSYCHOLOGICAL MEASUREMENT	**PS 511**	Analyze, evaluate, build and validate psychological measuring tests related to the variables of research projects.
INTERVIEWING THEORY AND TECHNIQUES	**PS 510**	Analyze, describe and compare different types of interview used in organizations according to their characteristics and purposes. Develop actual interviews in clinical, educational and organizational fields.
PSYCHOPATHOLOGY I	**PS 531**	Formulate the main concepts of etiology, classification, clinical features and treatment of the most common emotional and behavioral disorders. Describe those disorders in which the psychologist intervenes more directly. Explain the main legal and ethical issues related to the diagnosis, management and treatment of mental illness.
PSYCHOANALYTIC PSYCHOTHERAPY	**PS 532**	Explain the knowledge related to psychoanalytically oriented brief psychotherapy. Experience the theoretical foundations of the brief clinical intervention and on the variation of the traditional psychoanalytic technique to carry out a brief focused therapy.
ADVANCED RESEARCH METHODS	**PS 528**	Describe research methods and formulate a manuscript with the APA formatting for a research paper
SOCIAL COGNITION AND ATTITUDES	**PS 524**	Describe the various positions on social cognition, to identify the relationship between social phenomenon or social situation and synthesize the interpretation by the perception, attribution, social inference and attitudes of individuals to apply this knowledge to the dynamic world of psychology.
PSYCHOPATHOLOGY II	**PS 533**	Differentiate the psychotic disorders, neuropsychological disorders and developmental disorders and describe the treatment for each condition.
COGNITIVE BEHAVIORAL PSYCHOTHERAPY	**PS 534**	Identify and describe the different techniques of cognitive behavioral intervention used for changing pathological behaviors, for both, internal (unobservable), and external (observable) under supervision.
TERMINAL PROJECT I	**PS 513**	Prepare the draft thesis, conclusion and draft the part of the theoretical framework of the thesis and its methodology.
ADVISORY GROUPS	**PS 537**	Describe the main knowledges in the work of small groups. Practice group dynamics as a participant and as an advisor.

HUMANISTIC-EXISTENTIAL PSYCHOTHERAPY	**PS 535**	Describe the origin, development, philosophical bases, psychological theory, pioneers and authors of the humanistic-existential current. Describe the different facets of the process of humanistic-existential and gestalt psychotherapy, and thus apply any of its approaches in individual or group psychotherapy under supervision. Substantiate, develop and employ Frankl logotherapys, Rogers psychotherapy, the work of Fritz Perls and Gestalt.
TERMINAL II PROJECT	**PS 514**	Conclude and defend a thesis according to the established scheme and demonstrate knowledge of it on the professional exam.
SELECT TOPICS IN PSYCHOLOGY	**PS 547**	Explain the fundamental skills in the areas of clinical psychology related to your terminal project
PRACTICES IN CLINICAL PSYCHOLOGY	**PS 536**	Examine patients experimenting with the theoretical knowledge related to diagnostic methods, interpreting behavioral disorders and applying intervention techniques.

MASTER IN ORGANIZATIONAL PSYCHOLOGY (ONLINE)

ORGANIZATIONAL BEHAVIOR	**AD 553**	Distinguish the classical models that explain human behavior, apply them to the knowledge of human beings inside organizations.
ORGANIZATIONAL COMMUNICATION	**AD 550**	Understand and manage organizational communication strategies and communication networks to develop as a communication agent in an organizational network.
INTERVIEW	**PS 521**	Understand and use interviewing techniques as an efficient tool for a successful implementation in organizations.
CONTEMPORARY TOPICS IN PSYCHOLOGY	**PS 522**	Develop basic skills in organizational and clinical psychology so they can be applied to various projects that can provide solutions to organizational and/or clinical problems.
WORKING GROUPS AND COLLABORATIVE LEARNING	**ED 526**	Develop critical and creative metacognitive skills, to work and learn collaboratively.

SOCIAL COGNITION AND ATTITUDES	PS 524	Analyze the nature of perception, attribution, social inference and attitudes to interpret them in the field of organizational psychology.
ORGANIZATIONAL DEVELOPMENT	PS 542	Establish the organizational development tools, such as planned interventions and behavioral sciences in organizational processes.
TRAINING	PS 539	Recognize the role of training and apply the tools that it uses to intervene and plan changes in organizations.
PSYCHOLOGICAL MEASUREMENT	PS 511	Build and evaluate psychological measuring tests for their correct application and interpretation.
HUMAN INTERVENTION	PS 540	Understand the main principles and applications of human interaction to generate intervention projects.
ORGANIZATIONAL DIAGNOSIS	PS 544	Recognize the main diagnostic tools and continuous improvement processes to ensure organizational quality.
GROUP LEADERSHIP	PS 523	Recognize and analyze the types, techniques and basic tools for managing groups to use them dynamically in the leading of groups.
PRODUCTIVITY AND CREATIVITY	PS 548	Analyze the main principles and applications of human interaction in productivity to be identified in the organizations.
LEADERSHIP	PS 549	Identify the importance of the leadership role within the company, as part of their main responsibilities and implement programs on the subject.
METHODOLOGICAL STRATEGIES OF PSYCHOLOGY	PS 512	Identify the various methodologies in psychology to develop a research project either in clinical psychology or organizational psychology.
DECISION MAKING	PS 556	Dominate decision-making considering its implications for the organization.
CONSULTING	PS 557	Know the role of consulting and use the appropriate tools to intervene and plan changes in organizations.
FINAL PROJECT I	PS 513	Develop the first part of the Terminal Project, conclude and write the theoretical framework and methodology.
PRACTICES IN ORGANIZATIONAL PSYCHOLOGY	PS 546	Manage the knowledge acquired in previous subjects, placing them in supervised practice within the business environment.

FINAL PROJECT II	**PS 514**	Develop a Terminal Project in accordance to the stablished format and prepare for its presentation.

MASTER IN ORGANIZATIONAL PSYCHOLOGY (ON CAMPUS)

PSYCHOLOGICAL MEASUREMENT	**PS 511**	Develop theoretical and practical skills to analyze, evaluate, build and validate the psychological measurement tests.
INTERVIEWING THEORY AND TECHNIQUES	**PS 510**	Analyze, describe and compare different types of interview used in organizations according to their characteristics and purposes. Develop actual interviews in clinical, educational and organizational fields.
HUMAN PROCESSES AND PRODUCTIVITY	**PS 518**	Identify, organize and implement the principles and applications of human interaction in organizational productivity.
ORGANIZATIONAL DEVELOPMENT	**PS 542**	Analyze, implement and evaluate theoretical and methodological tools used in the behavioral sciences in organizations, change processes, consultancy, intervention and evaluation of organizational development.
ADVANCED RESEARCH METHODS	**PS 528**	Develop research skills, to develop a manuscript with the conventional format of a research article.
SOCIAL COGNITION AND ATTITUDES	**PS 524**	Describe the various positions on social cognition, to identify the relationship between social phenomenon or social situation and synthesize the interpretation by the perception, attribution, social inference and attitudes of individuals to apply this knowledge to the dynamic world of organizational psychology.
LEADERSHIP AND DECISION MAKING	**PS 543**	Describe, discuss and analyze the importance of the leadership role within the company as well as decision-making as part of their main responsibilities within an organization.
ORGANIZATIONAL DIAGNOSIS	**PS 544**	Develop consulting skills through the review of the theory and practice of organizational diagnosis to apply it to the various organizations.

TERMINAL PROJECT I	PS 513	Prepare the draft thesis, conclusion and draft the part of the theoretical framework of the thesis and its methodology.
ADVISORY GROUPS	PS 537	Master the knowledge to develop small group meetings, and develop group experiences through group dynamics.
ORGANIZATIONAL CONSULTING	PS 538	Master and apply the function of consulting. Implement the theory, model and applications of Appreciative Inquiry to direct an intervention of change in organizations.
TERMINAL PROJECT II	PS 514	Develop and finalize the draft thesis according to the established scheme and demonstrate knowledge of it on the professional exam.
PRACTICES IN ORGANIZATIONAL PSYCHOLOGY	PS 546	Prepare an assessment of an organization, as well as design and develop an intervention program to generate changes in the organization.
SELECT TOPICS IN PSYCHOLOGY	PS 547	Develop fundamental skills in the areas of organizational psychology. The area chosen will vary according to the specific needs of students.

MASTER IN LATIN AMERICAN LITERARY THEORY AND CRITICISM

LITERARY THEORY I	LI 510	Identify the fundamental problems of Western literary theory, starting from Plato & with emphasis on the most decisive trends in the first half of the twentieth century (Marxism, Stylistic, Russian Formalism).
THE LATIN AMERICAN LITERARY CANON	LI 511	Understand Latin American literature through the analysis of the processes of construction and consolidation of the canon. Dominate a large corpus, which roughly account of the whole of the Latin American literary system, composed of literary works and, above all, works or critical instances that contributed to the literary canonization.
INDIGENOUS AND INDIGENISTS LITERATURES	LI 518	Identify indigenous and indigenists literatures and their location in the system of Latin American literature.
LATIN AMERICAN NARRATIVE OF THE TWENTIETH CENTURY	LI 519	Distinguish and master the main features of two major periods: the new Latin American narrative (1940-1970), which includes the Boom (1960-1970), and the Latin American narrative of the post-boom (from 1970 to date).
LITERARY THEORY II	LI 520	Understand the most important European and American literary theories of the second half of the twentieth century. Apply the

		concepts of structuralism, post-structuralism, narratology, hermeneutics, aesthetics of reception, dialogism, polyphony, literary field, systemic theories, semiotics, phenomenology, deconstruction, psychoanalysis, Marxism, feminist criticism and postmodernism, among others.
THE LATIN AMERICAN ESSAY	**LI 521**	Analyze in depth the fundamental works of the essay genre in Latin America and verify the establishment of a cultural identity through these works, especially in the twentieth century.
LATIN POETRY OF THE TWENTIETH CENTURY	**LI 522**	Analyze the most significant works of Latin American poetry of the twentieth century, with special emphasis on modernist and avant-garde movements.
SUBSYSTEMS OF THE LATIN AMERICAN LITERATURE: THE CASE OF MEXICO	**LI 532**	Analyze Mexican literature, first as a system rather than as a certain selection of the corpus, and, secondly, as a subsystem within Latin American literature. Along with this, draw up a balance of its trajectory based on this broad and focused perspective on the notion of criticism.
ADVANCED RESEARCH SEMINAR	**LI 531**	Develop a thesis proposal approved by both, the Thesis Director and by the Thesis Proposal Evaluation Committee of the Department.
LATIN AMERICAN CULTURAL STUDIES	**LI 547**	Analyze the main debates that have occurred in Latin America, from the development of the so-called "cultural studies" in last decades of the twentieth century. Examine the theoretical and practical usefulness of this field of study, analyze its historical development in the Latin American space and assess their possible future performance.
THESIS	**LI 542**	Develop a thesis project with an argumentative structure. Demonstrate the hypotheses raised in the thesis project.
SEMINARS		
SEMINAR: THE WORK OF MARIO VARGAS LLOSA	**LI 515**	Analyze an extensive part of the literary and essayistic work of Vargas Llosa; verify the aesthetic importance of the work of this author and relate it with its different contexts; apply various categories of analysis and methodological tools that expand the repertoire of knowledge for future research.
SEMINAR: FANTASTIC LITERATURE SPANISH AMERICA	**LI 523**	Analyze the most important European theories of fantasy literature and compare them with those of the genre that have been written in Spanish America; apply relevant theories to the Hispanic Americans fantastic stories of the nineteenth and twentieth centuries; identify the diachronic transformations that take place in the Hispanic fantastic literature and studies that deal with it.
SEMINAR: THE WORK OF SERGIO PITOL IN HIS INTERTEXTUAL NETWORK	**LI 534**	Analyze the narrative, essayistic and translating works of Sergio Pitol; build an educated notion of the network of relationships that this work has with other texts; master some theoretical tools that help to appreciate this work, including the philosophy of Mikhail Bakhtin.

EDUCATIONAL OFFER

2009

LICENCIATURA IN BANKING AND INVESTMENT

INTRODUCTIN TO FINANCIAL ANALYSIS	BF 100	Analyze the basic elements that make up the financial markets. Apply financial concepts and techniques most basic evaluation. Interpret the principle of diversification and calculate the performance of a portfolio
FINANCIAL ACCOUNTING	FC 112	Apply theory twice in v computerized processes oaauetes. Identify and analyze the different types of organizations, as well as the Financial Statements to generate useful information for timely decision making.
PRINCIPLES OF ECONOMY	EC 105	Analyze the basic elements of the economic environment at micro and macro level: argue their application in relation to contemporary economic phenomena
GENERAL STUDIES I	GC 001	
THOUGHT AND LANGUAGE	GC 001	Express reflective thinking in expository and argumentative textbooks. and constantly practice reading. writing and speaking integrally
SECOND LANGUAGE I	ID 100	
CAPITAL BUDGET ANALYSIS	PC 114	Identify the field of corporate finance and know how to evaluate the three decisions financial fundamentals that face any company investment decisions (capital budget). financing (capital structure) and payment of dividends
INTERMEDIATE ACCOUNTING I	ID 001	Evaluate. interpreting and applying the basic theory of accounting under the MIPA. the FASB and IASB to support and mastery of the theoretical and practical knowledge. Support the validity reasoning and the application of rules and regulations of the various elements of financial information for solving specific problems. within the Economic Entities
MICROECONOMICS I	EC 106	Analyze economic modeling techniques markets through graphical analysis and demonstrate the implications of different market structures for economic efficiency as well as the policies that could potentially correct the distortions. Build economic intuition to analyze the functioning of markets as a result of individual decisions of consumers and businesses and solve problems of microeconomics from a geometrical point of view
MATHEMATICAL ANALYSIS FOR ECONOMICS I	MA 136	Pose. solve and interpret problems calculating a variable that require the use of the concepts of approximation, rate of change. extreme values, length. area and volume
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.

SECOND LANGUAGE II	ID 002	
CAPITAL STRUCTURE ANALYSIS	BF 111	Distinguish overall objective of the subject financing decisions within the company. The difference in terms of funding between debt and equity. Evaluate funding decisions short and long term
INTERMEDIATE ACCOUNTING II	FC 214	Analyze. apply and interpret the conceptual framework and practice of all liabilities and capital accounts in a financial statement. by identifying principles. evaluation rules. procedures and rules of presentation of the balance sheet and the Statement of Changes in Financial Position and identify their qualitative characteristics and guidelines for valuation of cash and working capital; as support for the practice of the accounting profession in Mexico and internationally
MICROECONOMICS II	EC 206	Apply the elements concerning the analysis of the various functions and production decisions by a company in a competitive environment. Argue the differences between production decisions short- and long-:> loop. Represent a first approach to solving production problems from a business in uncertain situations
MATHEMATICAL ANALYSIS FOR ECONOMICS II	MA 138	Handle the concepts of indeterminate forms and improper integrals. Evaluate and interpret the improper integrals. And solve problems of calculus in several variables requiring the use of the concepts of approach. reason to change. extreme values. area and volume. and interpret their results and solve problems of various variables used to economics: maximum and minimum (with or without restrictions). Calculate and give the economic interpretation of the derivatives of first and second order handle the concept of number and figure out their possible convergence. R applies the concept of the economy series
GENERAL PROBABILITY	AE 250	Handle the basics of descriptive statistics, probability v. V graphically analyze numerical distribution of a set of quantitative data. Employ different continuous discrete models v for calculating probabilities of events of real life
SECOND LANGUAGE III	ID 003	
INVESTMENT ANALYSIS	BF 200	Model and interpret the analysis of the most important financial markets. as well as the valuation of financial instruments. Evaluate the price of an option and apply the basics of technical analysis
ADVANCED MANAGEMENT AND COST SYSTEMS	FC 335	Identify new trends in accounting bullrings and its application in the decision-making process. Using correlation analysis techniques and other statistical tools for determining forecasts. Analyze the strategic planning process to apply within manufacturing companies and service

MACROECONOMICS I	EC 107	Identify the main problems and macro phenomena and analyze them from a theoretical point of view (with analytical and graphical fécnicas) and empirical (by analyzing the basic data) critically
LINEAR ECONOMIC MODELS	EC 111	Modeling different socioeconomic problems using algebra l ineal as an analytical tool. TECHNIC apply as matrix calculation
GENERAL STATISTICS	AE 300	Apply different statistical methods to make inferences about unknown population parameters. through appropriate point estimators (indicating the error limit for the estimation) or through confidence intervals for large and small samples. Calculate the sample size! right to have good estimates Testing hypotheses for any of the following population parameters: mean and mean difference. proportion, proportion difference and variance calculator and interpret the significance level achieved by a test (p value) Apply the analysis of variance (ANOVA) to completely designs aleatoriezazos Apply chi square test for contingency tables. and carry out different tests of hypotheses for the analysis of qualitative data
GENERAL STUDIES II	GI 002	
BANKING AND FINANCIAL MARKETS	BF 320	Analyze the characteristics of commercial banks and other financial intermediaries activities. Establish the relationship between these institutions and the central bank through monetary policy. and how risks are managed are exposed to financial institutions
TAX LAW I	FC 351	Identify the importance of tax law within the administration tax as substantive role within a state, describing an overview of taxation, specifying non-tax and extraordinary income. Tax coordination. public expenditure. the Tax Code of the Federation and its regulations. the Administrative System in Mexico. the Law of the Tax Administration Service. the Organic Law of the Tax Court of the Federation. Federal Law of Administrative Procedure. Amparo in Tax Matters: The defenses before federal authorities. State and Municipal
INTERNATIONAL FINANCE	BF 330	Relate and interpret the most important elements of international financial markets. Describe and analyze international corporate governance
ECONOMETRICS I	EC 311	Apply the tools of exploratory data analysis. applying probabilistic basis of statistics. Implement and test the theory of probability. their properties and laws. and the various probability distributions and statistical tables. Use correct minimum quadratic regression techniques. both univariate and multivariate as the properties of these estimators

COMEMRCIAL LAW I	DE 250	Identify. analyze and apply the generalities of acts of trade and specialization. as well as the rules applicable to traders and nature of legal relations with those individuals v morals that are not engaged in trade. Establish a critical version of Mexican law. its successes and shortcomings in corporate law. by practicing practical exercises and readings on business
GENERAL STUDIES III	GH 003	
INVESTMENT BANKING	BF 340	Describe and compare the services offered by an investment bank. Using the techniques used by investment banks to implement their strategies
TAX LAW II	FC 452	Identify. describe and use the Law of the Income Tax on par with that of the Added tax and tax on business value and Single Rate Tax on Cash Deposits in developing business operations and professional activities in connection with the institutions of the Mexican Financial System
MACROECONOMICS II	EC 205	Apply the theoretical analysis in the course of Macroeconomics 1 to more realistic situations and therefore more complicated. as they presented in cases of open economies or incorporating expectations of economic agents. Interpreting and applying other perspectives of the theory by studying the most important criticisms that have been made in recent times
ECONOMETRICS II	EC 335	Applying multivariate analysis tools. Solve the problems of violation of the assumptions of the classical regression model. Solving simultaneous equations systems showing the conditions of order and rank. Employing methods involving the use of instrumental variables in several stages
COMMERCIAL LAW II	DE 253	Analyze develop and implement the credits. management. and operating system exceptions. that give life to one of the most important and frequent judgments of the Mexican legal system: the Executive Judgment Mercantil. Apply assembly and transfer of credits. both causal and autonomous. Identify basic credit operations which regulates the Foreign Exchange Act and will be deepened in the course of Banking Law
GENERAL STUDIES IV	GS 004	
COMPANY ACQUISITION AND RESTRUCTURING	BF 341	Analyze the process of corporate restructuring. Synthesise the most common practices related to the acquisition. merger and restructuring firms. Elaborate schemes and alternatives for restructuring companies
CORPORATE FINANCE SEMINAR	BF 410	Model and interpret the analysis of the most important financial markets. as well as the valuation of financial instruments. Evaluate the price of an option and apply the basics of technical analysis

MEXICAN ECONOMY	EC 221	Get a comprehensive view of the current economic problems of Mexico. from a retrospective analysis of long term. Establish a bridge between economic theory at the macro level and the reality of the Mexican economy
BANKING LAW	DE 345	Analyze and apply the rules governing financial groups, especially credit institutions in terms of lending and borrowing operations. Implement different instrumentations credit are Credits Simples, Enabling or Avio. Refaccionarios among others. Determine and implement operations involving companies and individuals as they relate to any entity of the financial group, with a core stock trading point
SOCIAL RESPONSIBILITY	RS 498	
BANKING AND INVESTMENT SEMINAR	BF 440	Analyze the essential aspects of investment banking activities. Apply mechanisms LBO. mergers and acquisitions of companies. Identify the junk bond market
PROFESSIONAL CERTIFICATION	BF 490	Evaluate investment strategies, calculating yields on investment portfolios. Managing investment portfolios according to the legal framework. Operate derivatives and synthetics. Appropriately use the instruments available in the money market and capital. Relate and apply knowledge acquired during their studies to prove the required tests to obtain certification as a financial advisor to the authorities Apoderado
GRADUATION PROJECT	BF 499	Write a thesis under the supervision of a teacher. Systemize and integrate a document in the structure. complete with a formal distribution of the research content. Defend the thesis before a jury integrating the knowledge acquired during their professional practices
ELECTIVES		
INVESTMENT SEMINAR	BF 400	Using advanced techniques in the field of investment analysis. Develop and analyze investment portfolios forms of leverage
FINANCIAL MEDIATION SEMINAR	BF 420	Using advanced techniques for managing assets and liabilities of any financial intermediary. Apply and interpret the regulation of financial intermediation
FINANCIAL MARKET SEMINAR	BF 430	Analyze the most advanced aspects of the dynamics and evolution of markets contemporary financial. Operating the process of securitization of assets and employ derivatives markets
GENERAL STUDIES I		
BASIC MATH FOR ECONOMICS	MA 110	Manage and apply knowledge of elementary mathematics and computation different problems for use in subsequent courses in Economics

BUSINESS MATH	MA117	Using mathematical concepts and techniques to solve problems of an economic nature. administrative. accountant. and social sciences and efficiently operate the algebra of sets in solving problems of their professional practice. Likewise. use the concepts of algebra to construct graphs of functions related to current business problems
INTRODUCTION TO MATHEMATICAL THINKING	MO 110	Using methods logical reasoning in the analysis and troubleshooting. Address problems of mathematics as a geometric system and efficiently operate the algebra of propositions and set algebra in solving mathematical problems of their own profession. properly handle the concepts of group. ring field. use the conceptual and operational management relations and functions and at the same time addressing the mathematical problems considering the supreme axiom in real numbers
ANALYTIC GEOMETRY	MT 118	Handle and apply lengths and angles using vectors. cónicas.Realizar equations secc1ones changes and coordinate transform equations using translation and rotation shafts. Interpret and obtain the equations of lines. planes and spheres using vectors. Calculating equations of curves and surfaces of revolution. For use in subsequent courses in Economics
GENERAL STUDIES II		
INFORMATION CULTURE	BC 110	Assess the philosophical relevance of technology as well as the ways in which it has conditioned the organization and performance of human practices
STRUCTURED PROGRAMMING	IS 112	Solve problems with computational tools. programming in high level language. using a structured methodology and guidelines covering quality design and documentation of the generated program. And use flowcharts to build the program in the appropriate language
SOCIETY AND INFORMATION	IS 118	Assess the philosophical relevance of technology as well as the ways in which it has conditioned the organization and performance of human practices
GENERAL STUDIES III		
LOCAL ART	AP 200	Analyze the different aesthetic manifestations. artistic and cultural surrounding their local environment and identify them within your imagination to construct possible worlds in their social environment
WASHI ZOQUEI	AP 473	properly use the traditional process of iaoonés origin (Washi Zoquei) of manual production of paper. controlling the development of the fibers. paper pulps and how to properly manufacture the equipment and utensils. Apply these processes and knowledge in performing functional works without losing its plasticity and create paper supports for use in projects of other subjects such as graphic materials

ART, HISTORY AND CULTURE	AS 137	Analyze and identify the specific ementos of the history of art according to political changes. cultural. social and economic factors that have faced world history primarily in the seventeenth and eighteenth centuries
ECOLOGICAL THEORY	CU 480	Analyze and identify historical stages through which the earth has passed as well. eco-environmental process and the consequences that have arisen with the different changes along the Planet
ENVIRONMENTAL ETHICS	CU 481	Analyze the basic principles of environmental ethics and the effects that can cause the life of the planet. Interpreting and applying the various guidelines involved in the conservation of the environment. care and prevention on of the ecosystem
INTRODUCTION TO DANCE	DA 101	Respond broadly to the central question what is dance as an academic discipline? Develop skills recognition and expression in relation to the following thematic structure: Speeches Dance; Dance History: Biographies and movements to postmodern dance; Dance in Mexico; Contexts Filosófico, theoreticians and Art: Dance and Demonstrations: Interdisciplinariedad. Identify different discourses Dance to recognize and express a clear vision and multidimensional understanding of matter and its contextual location
INTRODUCTION TO LITERARY CREATION	LI 180	Academic writing essays with the support of literary resources. Apply skills for understanding and writing texts that meet expressive and interpretation of reality needs through literature
DISCOURSE ANALYSIS	LI 264	Identify the main currents or trends in the theory and methodology of the Speech analysis. arising as a result of reflection on language, from the second half of the twentieth century. In addition, applying the tools in the critical analysis of various texts
MUSICAL THEORY I	MU 101	Identify and interpret the written musical language. Recognize the different composition rules apply them to their harmonic resources. Solving exercises that address analysis, and harmonic and formal resources of classical and western music
GENERAL STUDIES IV		
CULTURE AND SOCIETY	AN 120	Identify structural and behavioral principles underlying all human communities through a consideration of global cultural diversity. Analyze human variation. reflected in daily habits. the clothing. the language. the religion. ritual and worldview. constru go to an understanding of otherness and ourselves. Establish. through the comparative study. a framework for understanding every aspect of life in any community

CREATIVITY DEVELOPMENT	**CO 290**	L Identify and use as di fferent forms of expression and Communi cation. Design strategies to develop their communication processes. L will identify basic concepts of development of creativity. generate original ideas against specific problems and needs. and transmit them properly in novel ways of expression and communication mechanisms
LEGAL BUSINESS FRAMEWORK	**DE 332**	Establish and distinguish how commercial transactions are regulated. specialization. and the rules applicable to merchants, credit. societies and fundamental aspects in labor matters. that yield you a general legal insight into the field of business
HUMAN RIGHTS	**DE 386**	Identify the management of federal and state regulations. linked to the observance of OH. as well as the institutions responsible for ensuring observance and promotion. either through International Organizations and International Treaties in force in Mexico and that Mexico is a part. Identify and implement procedural mechanisms for the defense of human rights at national and international levels. Describe and analyze human rights. classification. typology and importance in the science of law and social reality of both Mexico and the world today. Analyze the contributions of various philosophers. Doctrin as schools and different thinking. the real situation of human rights in the world. Latin America and Mexico
PERSONALITY THEORIES	**PS 215**	Describe what is personality and what personality theory: identifying six domains dealing with the study of personality; analyze the main basic constructs and postulates of each domain as well as the authors who developed them: identify research and applications in each domain
LEADERSHIP AND DECISION MAKING	**PS 342**	Use and apply the various techniques of decision making, the characteristics that define a leader, alternative leadership to exercise properly and the manifestation of these skills in organizations. and its importance in today's society
WORK PSYCHOLOGY	**PS 471**	Analyze and manage the rules and techniques of the selection process, evaluation and training of personnel in industrial psychology. Principi you apply the psychology used in industry for the ork t r humanize and improve the qual ity of working life
CONSUMER PSYCHOLOGY	**PS 472**	Apply the principles of the nature of marketing. analyze opportunities. and apply the required capacity decision to mark products, pricing, distribution. promotion and environment. Evaluate strategic decisions on the use and product manufacturing

INTRODUCTION TO INTERNATIONAL RELATIONS	**RI 100**	Identify what are the differences between International Relations and the rest of the social sciences. Analyze the behavior of the various actors in international relations in its scope. Compare generally the main theoretical approaches to the study of international relations. Generally describe the international scene from a vision of the current global reality
SECOND LANGUAGE I, II AND III		
ENGLISH IA	**ID 101**	Analyze texts and oral information in English or intermediate vel. Generate short summaries of articles. Outline and organize bodies of correct and efficient manner in a paragraph. Basing opinions on verses di topics. I shared prepare for oral presentations r i nformation staff, to speculate and to ar Negoci. Listen i nformation to take notes. identify the main idea and details
ENGLISH IB	**ID 102**	Analyze texts and oral information at an intermediate level of English. Generating formal and informal writing. Develop a short article paragraphs and standards elements to inform and persuade. Basing opinions on various topics. Prepare oral presentations to share information, to suggest and to find solutions. Listen to capture information keywords, to identify the main idea and details and to order the occurrence of events
RUSSIAN I A	**ID 131**	Analyze simple items of topics of general interest Employ and distmguir various forms of spoken language. Develop simple compositions on cultural and social issues seen in class
RUSSIAN IB	**ID 132**	Relate the knowledge acquired in the course of history with the knowledge generated in the current year. Demonstrate the ability to interact with native speakers. Distinguish the main points of texts. I use di vers as forms of spoken language and express their ideas in conversations and technical personnel within their field of study. Elaborate compositions on topics cultur and soc i ales on it. Develop their knowledge on topics dive rces of Russian culture
FRENCH IA	**ID 151**	Identify and apply everyday expressions and basic phrases aimed at satisfying immediate needs. Design and interpret simple and direct exchange of information on issues that are familiar and routine. Describe in simple terms aspects of their past and their environment as well as issues related to their immediate needs

FRENCH I B	**ID 152**	Use phrases and frequently used expressions related to situations aria di life. Exchange information on aspects of its past, present and future. Research on various topics and develop simple connected text on topics that have a vested interest. Describe experiences. events, desires and aspirations. and briefly give reasons and explanations for opinions and plans
ITALIAN IA	**ID 161**	Use the language orally and in writing in simple basic structures and everyday situations in the present and past of the indicative next. suitably employed, generally. a short speech oral and written. Apply everyday expressions
ITALIAN IB	**ID 162**	Use the language orally and in writing with average structures in simple situations and you everyday as well as formal in the present tense and past next applying plus conditional and the imperfect indicative. Used properly, generally, a short speech oral and written. increase expressions daily
JAPANESE I A	**ID 171**	Apply the four language skills. Relate vocabulary with basic daily activities and analyze readings. Describe and interpret Japanese culture.
JAPANESE I B	**ID 172**	Basic expressions and everyday use that to cover his first Serwan needs in the country. Use adjectives and verbs conjugation of simpler times. Write simple compositions to organize information
GERMAN I A	**ID 181**	Primarily using speech skills and oral understanding. Develop small writing written in this language. Arguing in this language in everyday and simple situations (information on person. Mood. Countries. Shopping in a bazaar. In a market and a supermarket. Activities of daily life. Food and its preparation, meal in a restaurant). oral and written form. Employ the basics of grammar and syntax of German. Make small and simple readings to the same simple texts
GERMAN I B	**ID 182**	Generate a smoother oral expression in everyday life situations. Likewise it achieved demonstrate the ability to read and write simple texts. Argue with greater ease in everyday situations. Also prepare letters simple texts with familiar topics from 100 to 200 words. evaluate general texts read and distinguish the main and specific ideas of them
LATIN I B	**ID 192**	Translate by writing phrases and simple sentences and isolated both from Latin to the Spanish as the Spanish to the Latin using the five declensions and four conjugations of verbs in present and past tense with prepositions more common. Read short, simple texts sentence by sentence. Learn about the basic elements of culture. custom. history and literature of the Romans. Read Latin aloud and pronounce

		correctly. Use new vocabulary and especially to recognize the Spanish words derived from Latin
ENGLISH II	**ID 201**	Apply the conjugations of verbs at all times both in the active voice and the passive voice for text analysis. Develop sentences about everyday issues linked with connectors and read them aloud. Analyze the culture, customs. literature and history of the Romans. Apply new vocabulary and distinguish words derived from verbs rather than nouns
RUSSIAN IIA	**ID 231**	Analyze various texts to organize and synthesize information. Develop written work, paragraphs and essays to evaluate various information. Organize formal oral presentations to describe, synthesize and interpret information. Employ the acquisition of new vocabulary and accuracy of grammatical structures in a way contextualized in written work
FRENCH II A	**ID 251**	Apply a body of knowledge to show understanding. reading. escrit ura and speaks Russian language. Generate a greater number of linguistic details that ensure a complex communication vivid, fluid and. Identify and interpret as much information to describe the cultural and social issues in Russia. Synthesizing and transmitting knowledge in the compositions
FRENCH II B	**ID 252**	Generate oral and written by practice and application of linguistic knowledge of different tenses. Use a broad vocabulary for sharing impressions of French culture. Try listening comprehension. sociolinguistic written to the play. organize. disseminate and discuss information
ITALIAN II A	**ID 261**	Exchange impressions of French culture on social issues Oolitic v reflected in current events. Apply linguistic knowledge and vocabulary employ an intermediate-advanced level of understanding in speaking and writing. Analyzing information to establish arguments in written and oral form
ITALIAN II B	**ID 262**	Use oral and written communication and functional structures more complex character using the future. pluperfect and the imperative and combination thereof. Handle the past in contrast to the past. Use correct connectors. temporary markers and relative. Identify the preterite in narratives of literary type. Handle differences between oral and written narratives narratives
JAPANESE II A	**ID 271**	Using subjunctively. correctly handle the transition from the "direct speech" to the "speech referral." Use the "passive". The difference between formal and informal records. between spoken and written language. Identify and use the past tense in the spoken language. Analyze and synthesize information to organize in written and oral form

GERMAN II A	**ID 281**	Use expressions to communicate both in daily conversation as in writing with ideograms. Analyze and interpret aspects of Japanese culture
GERMAN II B	**ID 282**	Use the four skills: listening comprehension. reading. speaking and writing or drawing. Employ vocabulary related to everyday topics (buying clothes. Family and family relationships. Customs. Homes. Furniture and household appliances. School. I work, education and future. Beauty. Fashion and appearance). use some phenomena of grammar. Employ speaking with some ease and fluency in situations of everyday life. Generate reading skills to read texts about 1000 words. Apply writing skills to write concise compositions of about 200 to 300 words
ENGLISH III ACADEMIC PRESENTATIONS	**ID 301**	Implement the four skills using a language: listening, reading. speaking and writing. Modeling capability speaking more fluently and reasoning ability. Use reading skills to read texts. descriptions and newspaper articles about 2000 words. Demonstrate the ability to write concise compositions of about 350 to 500 words
ENGLISH III LITERATURE	**ID 302**	Apply research methods to meet specific goals speeches. Organize research materials effective information patterns. Distinguish and use information appropriately support. Distinguish your responsibilities as broadcasters and audience. Analyze your critical skills as recipients of information. Organize the group in a given discussion. Relate culture. topics and problem areas of Mexico and the United States. Design clear, detailed descriptions of complex subjects. integrating other subjects. developing concrete ideas and ending with an appropriate conclusion. Use new vocabulary in oral and written form
ENGLISH III BUSINESS COMMUNICATION	**ID 303**	Interpret and analyze some of the works of the most important authors of the English language literature. Build confidence and clarity opinions about texts read. Directing and participating in group speeches on various issues arising from the readings
ENGLISH III INTRODUCTION TO LINGUISTICS	**ID 304**	Apply knowledge of the language in simulations related to negotiation. Generate a clear and well-structured writing. Demonstrate a fluency that allows the natural development of the exchange of ideas

ENGLISH III DEBATE	**ID 305**	Relate linguistics with other disciplines, such as psychology. neuroscience, computer science, sociology, anthropology, education and literature. Get a general understanding of the structure and use of natural and human languages
FRENCH III A CULTURE	**ID 351**	Discuss various topics of current importance. Arrange in written form data and arguments that will be part of a debate. Design the necessary arguments to defend an intellectual position. clearly describe in writing the arguments used in debate. clearly generate oral arguments used in debate. Identify fallacious arguments
FRENCH III A LITERATURE	**ID 352**	Develop a wide variety of texts and exte'nsos advanced level of demand. Fluidly generate conversations and spontaneous. Manipulating language flexibly and effectively for social, academic and professional purposes. Develop clear texts. well structured and detailed on various subjects, showing controlled use of organizational, articulation and cohesion of the text. Synthesise information and arguments from various sources in the form written and summarize them orally. Describe predictable situations to explain an idea or problem with reasonable precision and express thoughts on cultural topics such as music and movies. Demonstrate that they have sufficient linguistic elements to describe, compare and evaluate issues such as family. hobbies. interests. work, travel and current events
FRENCH III B TRANSLATION	**ID 353**	Analyze and interpret the main French literary movements. placing them in their social and cultural contexts. Employ a wide variety of literary texts to describe what fluently and spontaneously read. Demonstrate flexible use and effective language for social purposes. academics and professionals. Develop clear texts. well structured and detailed. to implement the correct use of the mechanisms of organization, articulation and cohesion of a text. Synthesise information and arguments from various sources in written form and describe them orally. Interpret an idea or problem with reasonable precision to establish his thoughts on literary themes. Basing his ideas orally themes read
GERMAN III A LITERATURE	**ID 381**	Use the various guidelines of translation theory and techniques and strategies used by professional translators. Interpret the challenges in the different types of text. Implement a basic knowledge of diferent approaches to translation is used both in

		the past and today. identify and emp lear the terminology used in the field of translation. Deploy different translation techniques. Analyze the importance of cultural knowledge as well as linguistic knowledge. Using technological tools available for translation today. Identify and employ the necessary skills for oral translation of a text. Identify and apply a variety of grammatical differences between the two languages. Identifying mistranslations and mistakes well as linguistic variations in tone and style of both languages
GERMAN III B TRANSLATION	**ID 382**	Employ German language skills in the areas of understanding and written production. Test comprehension and speaking through exemplary texts of German literature. Perform small translations and cope orally and written in German, from an enlarged exemplary language platform including knowledge of vocabulary and grammar
ENGLISH IV ACADEMIC WRITING	**ID 401**	Employ basic skills ttaducción. A nalize the nature of the ROCESS translation. I diagnose poses challenges in different types of text and responsibilities of the translator. Employ basic knowledge of different approaches to translation theory. Distinguishing the terminology used in the field of translation. Relate and apply different translation techniques. Describe the importance of cultural knowledge as well as linguistic knowledge. Demonstrate the conceptual and operational management concepts such as "I lost da" and "equivalence" in translation. Investigate terminology. Identify the technology used in translation today. Employ skills in oral translation of a text and writing skills successfully in German and Spanish. Deepening the skills to express themselves orally in German. Identify and apply a variety of grammatical differences between the two languages. Expand vocabulary in both languages. Detecting mistranslations well as linguistic errors. Identify variations in tone and style of both languages
ENGLISH IV INTRODUCTION TO WRITTEN TRANSLATION	**ID 402**	Identify and implement goals for writing an academic essay. Identify sources information. Use correct techniques of academic writing. Using academic style without plagiarism

ENGLISH IV INTERCULTURAL COMUNICATION	**ID 403**	Use the various guidelines l qe translation theory and techniques and strategies They are using professional translators. Interpret the challenges in different types of text. Implement a basic conocim i ent of the different approaches of translation used both in the past and today. Identify and employ the terminology used in the field of translation. Deploy different translation techniques. Analyze the importance of cultural knowledge as well as linguistic knowledge. S use technological tools available for translation today. I dentify and employ l skills necessary for oral translation of a text. Identify and apply a variety of grammatical diferenc ias between the two languages. Identifying mistranslations l ingüísticos addition to errors and variations in tone and style of both languages. Distinguish concepts such as "loss" and "Equival gingiva" in translation. Diagnose variations in tone and style of both languages. Develop translating a variety of texts from English to Spanish and Spanish to English
ENGLISH IV INTRODUCTION TO ORAL TRANSLATION	**ID 404**	It distinguishes basic aspects of the new culture. interpersonal relations, living conditions, values, beliefs and attitudes. nonverbal communication, social customs. etc. Identify and analyze the components inherent in cultural communication. Communicate and interact effectively with members of other cultures. especially Mexico and the United States. Analyze the culture of self before we can diagnose and communicate effectively with people from other cultures. Identify and analyze some ways. linguistic structures and pragmatic rules of interpersonal communication. Get new vocabulary and apply language skills acquired at previous levels
CHINESE I A	**ID 121**	Employ basic skills associated with oral translation and handle conceptually and operationally the various aspects of oral translation theory and techniques and strategies used by professional interpreters achieving the following objectives: Using the basic skills of interpretation. Ual concept and operationally control the nature of the process of oral translation in addition to the challenges in the various modes of interpretation. Apply the responsibilities of the interpreter. Implement the terminology used in the field of interpretation. Apply the various techniques of interpretation. Investigate terminology. Using available technology in interpretation today. Build the skills to express oralment and English. Distinguish a variety of ales gramatic differences between the two languages and apply the appropriate way of interpretation. Diagnose variations in tone and style of both languages
CHINESE I B	**ID 122**	Relate cultural and historical aspects of China. Recognize pronunciation 4 tones and most laves c composing Chinese characters and have a basic knowledge of characters. Using expressions year cotidi

		use. Basic and ask questions such as What ....?. Who..?. Where ...?. How much ...? to obtain the minimum vocabulary to express basic needs

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EDUCATIONAL OFFER

2011

UNIVERSIDAD DE LAS AMÉRICAS PUEBLA

DOCTORATE IN WATER SCIENCE

ENVIRONMENTAL CHEMISTRY	HQ615	Know the fundamentals of environmental chemistry. The student will recognize the basic mechanisms of chemical processes involved in environmental systems; Solve problems related to the application of chemical processes in contaminated sites and relate to processes used for recovering the quality of the surface or ground water; recognize the importance of chemical processes in water, and the main methods for estimating the chemical quality of the residual and human consumption water.
ENVIRONMENTAL STANDARDS RELATED TO WATER IN MEXICO	HQ616	Know the general regulatory framework of environment, constitution, treaties, conventions, declarations, laws, regulations, rules, regulatory norms, jurisprudence, and contracts; analyze their relationship as well as the hierarchical chain among themselves. Analyze the competition and convergence with federal and state regulations; Understand the powers and limitations of environmental authorities, especially those in water. Study the rights and obligations of individuals and the concession regime through which they can operate. Meet the standards of water treatment and improved quality.
RESEARCH SEMINAR I	HQ610	The Student should handle the most important aspects of the application of the scientific method to the development of the research project thesis. Identify the procedures and methodologies to be followed for the establishment of a research protocol of a doctoral level thesis.
THESIS I	HQ611	Analyze Conceptually and in detail a research project that will allow the student to apply one or more areas of Knowledge for the realization of the thesis.
BIOMATERIAL ADVANCED WATER SYSTEMS	HQ625	Know the concepts of biomonitoring of water quality. Understand the ecology of invertebrates lotic and lentic aquatic environments at the level of population, community and ecosystem. Known sampling techniques and data analysis necessary for biomonitoring of water quality.
ENVIRONMENTAL DYNAMIC SYSTEMS	HQ626	Learn the interrelationships of the decisions on water management and its environmental impacts with the social and economic spheres, through a systemic and holistic approach.
RESEARCH SEMINAR II	HQ620	Handle the most important aspects of the application of the scientific method for the development of the research project thesis. Identify the procedures and methodologies to be followed for the establishment of a research protocol doctoral level thesis.
THESIS II	HQ621	Estimate the progress of the research project proposed for the application of one or more subject areas, to carry out the thesis.
ADVANCED OXIDATION PROCESSES	HQ635	Know the basics and main applications of advanced oxidation processes for treating water. Recognize the basic mechanisms of

		the processes involved and the operation of available commercial systems and its potential improvements.
RESEARCH SEMINAR III	**HQ630**	Handle the most important aspects of the application of the scientific method for the development of the research project thesis. Identify the procedures and methodologies to be followed for the establishment of a research protocol doctoral level thesis.
THESIS III	**HQ631**	Analyze Conceptually and in detail a research project that will allow the student to apply one or more areas of Knowledge for the realization of the thesis.
RESEARCH SEMINAR IV	**HQ640**	Handle the most important aspects of the application of the scientific method for the development of the research project thesis. Identify the procedures and methodologies to be followed for the establishment of a research protocol doctoral level thesis.
THESIS IV	**HQ641**	Estimate the progress of the research project proposed for the application of one or more subject areas, to carry out the thesis.
RESEARCH SEMINAR V	**HQ650**	Handle the most important aspects of the application of the scientific method for the development of the research project thesis. Identify the procedures and methodologies to be followed for the establishment of a research protocol doctoral level thesis.
THESIS V	**HQ651**	Estimate the progress of the research project proposed for the application of one or more subject areas, to carry out the thesis.
RESEARCH SEMINAR VI	**HG660**	Handle the most important aspects of the application of the scientific method for the development of the research project thesis. Identify the procedures and methodologies to be followed for the establishment of a research protocol doctoral level thesis.
THESIS VI	**HQ661**	Estimate the progress of the research project proposed for the application of one or more subject areas, to carry out the thesis.
PHYSICOCHEMICAL PRINCIPLES	**HQ510**	Understand, analyze, select and design the units of a treatment train depending on the characteristics of the water to be treated.
BIOLOGICAL PRINCIPLES	**HQ511**	Handle the most relevant aspects associated with biological systems and their influence on aquatic systems. Understand the implications of changes in the natural biological systems in aquatic systems.

LEGISLATION AND REGULATIONS	**HQ512**	Know the general regulatory framework of environment, constitution, treaties, conventions, declarations, laws, regulations, rules, regulatory norms, jurisprudence, and contracts; analyze their relationship as well as the hierarchical chain among themselves. Analyze the competition and convergence with federal and state regulations; Understand the powers and limitations of environmental authorities, especially those in water. Study the rights and obligations of individuals and the concession regime through which they can operate. Meet the standards of water treatment and improved quality.
ENVIRONMENTAL HYDRAULICS	**HQ513**	The student recognizes the fundamental principles of open channel flow. Identifies the mixing and dispersion processes in natural waterways. Handles diffusion processes in natural causes.
GLOBAL CLIMATE CHANGE	**HQ514**	The student handles the most important aspects of global climate change. Understands the implications of global climate change. Operates its knowledge in environmental science to analyze the impacts of global climate change. Handles the instruments of environmental impact assessment that has been generated internationally.
ADVANCED WATER TREATMENT	**HQ520**	Understands, analyzes, selects and design the units of a treatment train depending on the characteristics of the water to be treated.
ECOLOGY IN AQUATIC SYSTEMS	**HQ521**	Know the concepts of biomonitoring of water quality. Understand the ecology of invertebrates in lotic and lentic aquatic environments at their population, community and ecosystem levels. Know sampling techniques and the data analysis needed for the biomonitoring of water quality.
ENVIRONMENTAL IMPACT EVALUATION	**HQ522**	Know the environmental impacts generated by various human activities in water, soil and air. Recognize the control measures for pollution in water, soil and air. Identify the environmental impacts generated by various human actions. Operate control measures for pollution of water, soil and air. Handle the instruments of environmental impact assessment generated by the federal and state governments.
HYDROLOGIC ENGINEERING	**HQ523**	Solve problems related to the occurrence of precipitation, infiltration and evapotranspiration. Operate the different unit hydrographs required to analyze the precipitation-runoff relationships. Handle the concepts and techniques necessary to solve problems related to groundwater flow.
ENVIRONMENTAL DYNAMIC SYSTEMS	**HQ524**	Learn the interrelationships of the decisions on water management and its environmental impacts with the social and economic spheres, through a systemic and holistic approach.
RESEARCH SEMINAR I	**HQ530**	Handle the most important aspects of the application of the scientific method for the development of the research project thesis. Identify the procedures and methodologies to be followed

		for the establishment of a research protocol Master's level thesis.
THESIS I	HQ531	Analyze Conceptually and in detail a research project that will allow the student to apply one or more areas of Knowledge for the realization of the thesis.
RESEARCH SEMINAR II	HQ540	Handle the most important aspects of the application of the scientific method for the development of the research project thesis. Identify the procedures and methodologies to be followed for the establishment of a research protocol doctoral level thesis.

MASTER IN ENERGY SCIENCE AND SUSTAINABLE TECHNOLOGY

TECHNOLOGY RESEARCH	MQ510	Differentiate the types of research using qualitative and quantitative approaches. Discuss the nature and structure of the different types of research, including identifying appropriate research designs for a specific problem.
ENGINEERING THERMODYNAMICS	MQ511	Identify the fundamentals of thermodynamics for application in the design of energy generating processes from unconventional sources. Obtain the tools to design and build efficient renewable energy systems.
BIOFUEL TECHNOLOGIES	MQ512	Identify the basics for building and design biofuels systems .
EOLIC AND HYDRAULIC POWER GENERATION	MQ513	Identify the fundamentals of the operation of power generation systems from unconventional sources, using wind and hydraulic systems.
RESEARCH SEMINAR I	MQ514	Handle the most important aspects of the application of the scientific method for the development of the research project thesis. Identify the procedures and methodologies to be followed for the establishment of a research protocol Master's level thesis.
SOLAR THERMAL TECHNOLOGY	MQ520	Identify the fundamentals of constructing and designing solar thermal systems.
MODELING OF RENEWABLE ENERGY	MQ521	Evaluates the efficiency of various computational modeling methodologies power generation systems through the use of renewable sources.
PHOTOVOLTAIC SYSTEMS TECHNOLOGIES	MQ522	Identify the fundamentals of constructing and designing photovoltaic power generation systems.
TECHNOLOGY AND SCIENCE ENTREPRENEURSHIP	MQ523	Differentiate the different types of research using qualitative and quantitative approaches. Discuss the nature and structure of the different types of research, including the identification of the appropriate research designs for an specific problem. the student will get the tools to face the challenges generated by

		the actions and strategies needed to develop science and technology entrepreneurship.
RESEARCH SEMINAR II	**MQ524**	Reviews the basic concepts required for the development of research work necessary to obtain the degree.
PROJECT MANAGEMENT	**MQ530**	Differentiate the various types of existing methodologies applicable for renewable energy project management.
RESEARCH SEMINAR III	**MQ534**	Reviews the basic concepts required for the development of research work necessary to obtain the degree.
THESIS I	**MQ535**	Analyze Conceptually and in detail a research project that will allow the student to apply one or more areas of Knowledge for the realization of the thesis.
DESIGN AND CONSTRUCTION OF SUSTAINABLE BUILDINGS	**MQ546**	Identify the basics of building and designing sustainable buildings. The student will get the tools to design and build low cost and viable sustainable building systems in developing countries.
RESEARCH SEMINAR IV	**MQ544**	Reviews the basic concepts required for the development of research work necessary to obtain the degree.
THESIS II	**MQ543**	Acquire the skills needed for the final drafting of the thesis and its representation it to a synodal group.

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EDUCATIONAL OFFER

2012

UNIVERSIDAD DE LAS AMÉRICAS PUEBLA

LICENCIATURA IN HUMANITIES AND CULTURAL STUDIES

ENGLISH I	ESP0 011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
FOREIGN LANGUAGE I	LEX0 111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	MAT 0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
SPANISH II	ESP0 021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0 12 1	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ART, HISTORY AND CULTURE	AHC0 011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of the artifact and its conservation.
FOREIGN LANGUAGE III	LEX0 131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0 011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
POLITICAL INSTITUTIONS AND DEMOCRACY	LPT2 011	At the end of the course, the student will: 1) Understand the concept of political institution, its place in current political theory and its relevance to understanding contemporary politics; and 2) Analyze the institutions of democratic systems.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0 011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.

INTRODUCTION TO COMMUNICATION	**LIP1011**	At the end of the course, the student will master the basic concepts of communication and to know the social, cultural and technological development of the media.
POLITICAL PHILOSOPHY	**LRI1011**	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of political philosophy from a theoretical perspective; 2) the relevance of the main ideas of Western philosophical thought; (3) the relationship between philosophical ideas of a political nature and the exercise of politics and 4) the relationship between ideas, institutions, individuals and interests in the formulation of public policies by the State.
ART AND SIGN	**LHC1061**	At the end of the course, the student will deepen the study of the relationship between artistic practice and its different means from a historical perspective, considering the implications of the use of classical material supports to the different objectifications and recent digital media, and from a thematic perspective, as a key element to understand the paradigm shift that seems to characterize contemporary cultural production.
CULTURE THEORIES	**LHE1021**	At the end of the course, the student will critically analyze the main cultural manifestations of the twentieth century (music, writing, orality, audiovisual and digital), with the main objective of establishing, paying special attention to syntactic features, a typology that groups the different variants of these manifestations.
LITERARY MODELS (FICTION)	**LLI1031**	At the end of the course, the student will draw structural and thematic distinctions between the epic, the novel and the story. They will also be able to interpret paradigmatic works from the epic to recent tales and novels of the Western world.
CONTEMPORARY POLITICAL THEORIES	**LRI1051**	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of modern political thought; 2) the practical relevance of the main ideologies of Western philosophical thought; (3) the relationship between political ideology and the exercise of politics; and 4) the importance of ideologies in the political evolution of humanity in time and space.
HISTORY OF THE THEATRE	**LTE1041**	At the end of the course, the student will evaluate in writing and orally the collective and individual research projects, the theatrical models throughout the scenic history of the West, as well as their links with society, the economy, the market and politics.
CULTURAL STUDIES THEORY AND PRACTICE	**LHE2021**	At the end of the course, the student will appreciate the history and evolution of cultural studies and can apply the basic

		concepts of the discipline to form their own objects of study (hegemony, subculture, text, appropriation, etc.).
LITERARY MODELS (POETRY)	**LLI2011**	At the end of the course, the student will identify the essential elements of poetry: rhythm, metric, rhyme, free verse and figures of rhetoric. They will also be able to understand the basic styles of poetry, from the Renaissance to postmodernism, and to correctly interpret important poems of the Western world.
CONTEMPORARY WORLD HISTORY	**LR12011**	At the end of the course, the student will: 1) analyze the development of the international system from 1914 to the present moment; and (2) to assess different interpretations of the development of the international system from 1914 to the present time.
LITERARY MODELS (ESSAY)	**LLI2051**	At the end of the course, the student will understand the theories of the essay, to identify the main characteristics of the genre and to interpret essay texts (European, Spanish American and American) in the light of the theories about the essay.
LATIN AMERICAN CRITICISM AND HISTORY	**LLI2061**	At the end of the course, the student will synthesize the critical and historiographical thinking of Latin America of the nineteenth and twentieth centuries. They will also relate critical and historiographical exercises to relevant theoretical conceptualizations.
ART CRITICISM	**LHC3021**	At the end of the course, the student will offer a historical introduction to the origins and most outstanding developments of art criticism from the eighteenth century to the present day and present the different theoretical foundations from which to build art criticism to be able to read critically and in detail some of the contributions of contemporary art criticism.
POSTSTRUCTURALIST THINKING	**LHE3011**	At the end of the course, the student will analyze some of the main nodes that make up one of the dominant theoretical stages in recent decades and that has put in check some of the key concepts of modernity: sense, truth, history for example.
ART OF THE FIRST HALF OF THE TWENTIETH CENTURY	**LHC3051**	At the end of the course, the student will understand the development of modern art in Europe in the first half of the twentieth century, emphasizing the critical appreciation of each of the currents, trends and different movements that characterize it.
RESEARCH METHODOLOGY	**LHC3071**	At the end of the course, the student puts into practice the theoretical and methodological elements used in scientific research in general and the specific methods of the field of action of the art historian.

COMMUNICATION AND GLOBALIZATION	LIP3041	At the end of the course, the student will explain in writing the theoretical frameworks through which the development of modern globalization and its impact on communication and the media within political, economic and social contexts are analyzed; and to apply appropriate concepts and terms through case analysis focused on the processes of globalization and communication, their interrelationship and their impact on a local, regional and global environment.
CONTEMPORARY LATIN AMERICA	LRI4091	At the end of the course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary dilemmas.
ART FROM THE SECOND HALF OF THE TWENTIETH CENTURY	LHC4041	At the end of the course, the student will discern about the foundations necessary to interrelate art with the economic, philosophical, social and spiritual environment of the human being during the second half of the twentieth century. It identifies and understands the various changes and artistic proposals that occur in art and ideoesthetic thought during this time. It adequately manages the theoretical and methodological instruments for a reading and a comprehensive analysis of the works of art in the period studied.
PROFESSIONAL PRACTICE I	LHE4011	At the end of the course, the student will identify cultural management problems and work on specific task of a cultural manager.
EDUCATION FOR CRITICAL MEDIA RECEPTION	LID4031	At the end of the course, the student will develop their skills of critical reception before the media, being able to use these skills in the analysis of television and digital media messages. In addition, design strategies to promote critical reception before the media in different population groups and educational settings, both formal and non-formal.
NEW TRENDS IN ART HISTORY	LHC4081	At the end of the course, the student will know some of the developments in artistic practices, the external strategies and the theoretical proposals of the last two decades; he also becomes familiar with the new audiovisual syntaxes on which contemporary artistic practices are based.
TOPICS AND THEORIES OF CURRENT THOUGHT	LHE4051	At the end of the course, the student will critically analyze the contemporary problems that from the academic field are redefining the contents of disciplines such as Philosophy, Anthropology or Sociology. They will review readings grouped in thematic axes, such as "cultural studies", "globalization", "postcolonialism" or "Latin American thought" to purposefully synthesize the most representative texts on these issues, drawing on the baggage already accumulated during his studies, so that he positions himself argumentedly with respect to them.

CULTURAL MARKETING	MKT 4011	At the end of the course, the student will understand the options, strategies, methodologies, techniques and materials for the process of design, planning, production, financing, distribution, promotion, execution and development of scenic projects and cultural products in general, to combine the theoretical aspects with the technical and practical ones.
CRITICAL INTRODUCTION TO THE HUMANITIES	LHE1 011	At the end of the course, the student will discern the historical makeup of the field of humanities and will understand its main transformations and crises.
EPISTEMOLOGICAL MODELS	LHE2 011	At the end of the course, the student will develop a critical conceptual approach (not strictly chronological or by author) to the central problems of the processes of knowledge construction. They will categorize the different gnoseological strategies according to three characteristic patterns: the realist, the idealistic and the pragmatic
VISUAL STUDIES	LHE2 051	At the end of the course, the student will critically apply to visual production - especially digital - the fundamental concepts generated by contemporary visual studies - simulacrum, hypertext, virtual reality precept, expanded cinema, etc.
TECHNOLOGY AND KNOWLEDGE	LHE3 041	At the end of the course, the student will handle an expanded definition of the concept "technology" in such a way that they do not conceive it as a mere instrument of action on nature, but as a cognitive extension of the human being. They will identify the implications that different technologies have on the way we conceive our existence.
SELECT TOPICS I	THE4 011	At the end of the course, the student will deepen the study of various subjects in Humanities and Cultural Studies, and understand the process of conformation, consolidation and modernization of the different social manifestations in cultural history.
GENDER STUDIES	LHE4 021	At the end of the course, the student will critically analyze the social conflicts and cultural productions of the second half of the twentieth century from the academic perspective based on gender studies.
RESEARCH AND CULTURAL CRITICISM	LHE4 031	At the end of the course, the student will develop the necessary tools to analyze cultural products and to form a critique that serves to elucidate and present them publicly. Likewise, they will acquire practical mechanisms to detect the distinctive aspects in cultural productions (such as cinema, literature or art) and identify the resources of database and publications to contrast them and nourish their critical argumentation

SELECT TOPICS II	THE4 021	At the end of the course, the student will deepen the study of various subjects in Humanities and Cultural Studies, and understand the process of conformation, consolidation and modernization of the different social manifestations in cultural history.
PROFESSIONAL PRACTICE II	LHE4 041	At the end of the course, the student will perform effectively in the main practices of editorial work. Likewise, they will understand and conceptualize the editorial work as a whole.
POST-COLONIAL STUDIES	LHE4 061	At the end of the course, the student will critically interpret the history and cultural production of the twentieth century in light of the main contributions made by post-colonial studies (orientalism, indigenism, discourses of the national liberation movements, etc.).
SELECT TOPICS III	THE4 031	At the end of the course, the student will deepen the study of various subjects in Humanities and Cultural Studies, and understand the process of conformation, consolidation and modernization of the different social manifestations in cultural history.
INTRODUCTION TO LITERARY CREATION	LL110 21	At the end of the course, the student will reflect on the essential particularities of fiction, poetry and literary essay, in addition to writing, with artistic quality, narrative, poetic and essayistic texts.
THEORY AND CRITICISM	LLI10 41	At the end of the course, the student will understand the most important theoretical and critical texts they have written about Western literature, in addition to writing critical texts applying the literary theories studied in class.
LITERATURE OF THE CONQUEST	LLI10 51	At the end of the course, the student will understand the particularities of the literature of the conquest of America related to the hegemonic perspective from which said literature was written. They will also contextualize and correctly interpret fundamental texts on the conquest of America.
MODERN EUROPEAN LITERATURE	LLI30 81	At the end of the course, the student will draw a general overview of the main European manifestations in prose and poetry from the eighteenth to the twentieth centuries, in addition to finding the relationships between this period of European literature with its Corresponding Latin American.
NEW TRENDS IN LATIN AMERICAN LITERATURE	LLI40 71	At the end of the course, the student will obtain a panoramic view of the most important literary proposals of Latin America from the final years of the twentieth century to the present and to reflect on the relations between the publishing market, the cultural industries and the media with contemporary literary production.

FIRST ARTISTIC MANIFESTATIONS	**LHC1031**	At the end of the course, the student will explain the problems of art in its beginnings in the Western field mainly. They will also review and discuss the different theories that have been proposed to explain both the emergence of art and its possible meanings, as well as to establish plastic and formal links with certain types of manifestations of contemporary art.
ART AND GENRE	**LHC2041**	At the end of the course, the student will analyze the relationship between art and the processes of construction of gender identity in the Western socio-historical and cultural context.
SHAPE AND IMAGE	**LHC2081**	At the end of the course, the student will analyze artistic production, by reading the works from the instrument of visual literacy. They will understand the content of the various plastic-artistic manifestations by analyzing the form that each objectification as an imperative necessity for its material existence.
BAROQUE AND ROCOCO	**LHC2061**	At the end of the course, the student will apply the theoretical and methodological elements that allow the understanding of the historical-artistic processes that are traversed in this period. Identifies, analyzes and values the most representative artists, works and processes of the European XVII and XVIII.
NINETEENTH CENTURY IN MEXICO (ART AND DISCOURSE ON IDENTITY)	**LHC3031**	At the end of the course, the student will discern and define the main characteristics of Nineteenth-century Mexican art whose proposals radically contrast the capital's academic work with the production of the workshops and academies of the province and analyzes its particularities mainly in its modalities of architecture and architecture of altarpieces, sculpture, easel painting, graphics and photography. Likewise, they will identify the specifics of national art under the government of Porfirio Díaz and its consequences in Mexican artistic production.
INTRODUCTION TO POLITICAL SCIENCE	**LPT1011**	At the end of the course, the student will: 1) understand and apply some of the fundamental concepts of political science; and 2) distinguish the main contemporary theoretical currents, as well as their political implications, from this discipline.
CONTEMPORARY MEXICAN POLITICS	**LRI1031**	At the end of the course, the student will: 1) analyze the development of the Mexican political system from the Constitution in 1917 to the year in which the course takes place; and 2) construct different periodizations of Mexican politics in the little analyzed, presenting in a critical way the criteria on which they are based.
COMPARATIVE POLITICS	**LRI2021**	At the end of the course, the student will understand the theoretical foundations of comparativism and the forms of parliamentary and republican government that the countries of

		the world have sought to imitate. Analyze and compare selected examples of forms of government for all continents.
U.S. SOCIETY AND POLITICS	**LRI2081**	At the end of the course, the student will understand the society, government and politics of the United States.
SOCIAL MOVEMENTS AND CIVIL SOCIETY IN GLOBALIZATION	**LPT4051**	At the end of the course, the student will understand the causes and goals of social movements in a globalized world
MUSIC, FORM AND EXPRESSION	**LMU 1011**	At the end of the course, the student will recognize basic structures of musical organization relating them to the historical development of dance, theater, literature and music itself.
MUSIC THEORY I	**LMU 1021**	At the end of the course, the student will identify, write and analyze the notes, keys, armors, triads, inversion, rhythms, metrics and apply this knowledge in the composition of small sentences in a choral texture of four voices.
MUSIC BEFORE TONALITY	**LMU 1061**	At the end of the course, the student will identify and analyze representative works of the western musical repertoire prior to 1600.
POP MUSIC FROM THE BEATLES	**LMU 1081**	At the end of the course, the student will identify and analyze representative works of the Beatles.
THE HISTORY OF JAZZ	**LMU 3081**	At the end of the course, the student will identify and analyze representative works of the jazz repertoire of the twentieth century.
ELECTIVE I	**LHE2031**	At the end of the course, the student will understand the most important theoretical and critical texts that have been written about Western literature, in addition to writing critical texts applying the literary theories studied in class.
ELECTIVE II	**LHE2041**	At the end of the course, the student will: 1) analyze the development of the Mexican political system from the Constitution of 1917 to the year in which the course takes place; and 2) construct different periodizations of Mexican politics at the time analyzed, presenting in a critical way the criteria on which they are based.
ELECTIVE III	**HE3021**	At the end of the course, the student will identify and analyze representative works of the western musical repertoire prior to 1600.
ELECTIVE IV	**LHE3031**	At the end of the course, the student will apply the theoretical and methodological elements that allow the understanding of the historical-artistic processes that are traversed in this period. Identifies, analyzes and values the most representative artists, works and processes of the European XVII and XVIII.
ELECTIVE V	**LHE3061**	At the end of the course, the student will understand the causes and goals of social movements in a globalized world.

LICENCIATURA IN CULTURAL ANTHROPOLOGY

GENERAL ARCHAEOLOGY	**LAQ1 011**	At the end of the course, the student will understand the relationship of archaeology with the other fields of anthropology, examine the historical development of archaeology emphasizing the main theoretical and methodological changes and distinguish the techniques that archaeology makes use of today.
CULTURE AND SOCIETY	**LAC1 021**	At the end of the course, the student will master, identify and argue the fundamental concepts, as well as the data and achievements of ethnological science, and will be able to discern, describe, analyze and compare the great cultural diversity and the similarities that characterize the social life of human communities.
ENGLISH I	**ESP0 011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO VISUAL ANTHROPOLOGY	**LAC1 011**	At the end of the course, the student will master photographic techniques to document anthropological research, evaluate photographic techniques to identify the advantages and disadvantages of their use and develop and interpret visual images as sociocultural phenomena.
FOREIGN LANGUAGE I	**LEX0 111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	**MAT 0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
GENERAL PHYSICAL ANTHROPOLOGY	**LAQ1 021**	At the end of the course, the student will master the history of the development of physical anthropology, analyze how evolution, genetics and adaptation works, analyze the course of human evolution, compare theories around modern variation and analyze the relationship between culture and health.
ARCHAEOLOGY OF MESOAMERICA I	**LAQ1 031**	At the end of the course, the student will examine in an overview the archaeological data we have to study the early cultural evolution in Mesoamerica, examine the relevant bibliography and identify the contributions of the main researchers who have contributed to it and contrast the

		theoretical arguments with the archaeological data that support them.
SPANISH II	ESP0 021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
WORLD ETHNOLOGY	LAC1 041	At the end of the course, the student will conceptually and rationally master the main cultural areas of the world and the fundamental sociocultural traits associated with representative societies of each area and analyze the cultural diversity in the world.
FUNDAMENTALS OF ANTHROPOLOGICAL THOUGHT	LAC1 051	At the end of the course, the student will analyze the intellectual history of anthropological thought, from Greco-Roman thinkers to the early emergence of the discipline in the nineteenth century and evaluate the persistence of ancient ideas in modern anthropology.
FOREIGN LANGUAGE II	LEX0 121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
GENERAL LINGUISTICS	LAC1 031	At the end of the course, the student will master the general linguistic bases necessary for a basic understanding of the importance of this field within anthropology and to master the interrelationship of linguistics with the other branches of this discipline.
ARCHAEOLOGY OF MESOAMERICA II	LAQ2 011	At the end of the course, the student will master the archaeological data used for the construction of the pre-Hispanic chronology and characterize the fundamental transitions between the different temporal stages in the Mesoamerican cultural area, as well as analyze and argue the main processes of social, economic, political and ideological change during the classical and postclassic periods.
CURRENT TRENDS IN ANTHROPOLOGY	LAC2 021	At the end of the course, the student will master the history of ideas and socioanthropological thought, to analyze the notions around the relationship between society and nature during the twentieth century and to comment and/or criticize these in a coherent and understandable way.
FOREIGN LANGUAGE III	LEX0 131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing

LANGUAGE AND CULTURE: NAHUATL	**LAC2 011**	At the end of the course, the student will master the linguistic tools necessary for the use of historical documents and build the bases of the spoken Nahuatl language for use in the field and analysis of anthropological data.
PREHISTORY	**LAQ2 021**	At the end of the course, the student will analyze recent data on human socio-cultural evolution during the Pleistocene, or ice age, in Africa, Asia and Europe and develop skills to understand and evaluate debates on the role of human beings in long-term change processes, such as climate change, extinction and innovation.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0 011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	**AHC 0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
DESCRIPTIVE STATISTICS	**MAT 2031**	At the end of the course, the student will handle the basic concepts of mathematical notation used in the descriptive analysis of the data, know the relationship of statistics with the scientific method to understand and apply the descriptive statistical methods in the analysis of social issues.
ETHNOHISTORY	**LAQ2 051**	At the end of the course, the student will master the tools and techniques used to study codices and historical archives in general and specifically those relevant to Mexico, identifying the relevant bibliography and the contributions of the main researchers and analyzing the intellectual history of the discipline to relate it to the current arguments derived from the most recent information.
ETHNOLOGY OF AMERICA	**LAC2 051**	At the end of the course, the student will conceptually master the main elements of the culture and society of the indigenous peoples of the Americas and their cultural areas and analyze the basic descriptions of the most representative groups of each region and their cultural achievements.
HISTORICAL ETHNOLOGY OF MEXICO	**LAC2 031**	At the end of the course, the student will master the historical development of the indigenous peoples of Mexico from colonial times to the twentieth century, analyze their insertion within Spanish colonialism and develop ideas about the changes experienced with the State since the Bourbon Reforms and Independence.

FIELD METHODS IN ETHNOLOGY	**LAC2 041**	At the end of the course, the student will identify a social situation and transform it into a research problem, develop relevant categories, relate identified aspects and social actors, generate a logically structured methodological approach and build a set of techniques and an ideal bibliography.
ORIGINS OF CIVILIZATION	**LAQ2 031**	At the end of the course, the student will identify the variables involved in the emergence of cities, monumental architecture, state political organization, institutionalized religion, socioeconomic classes, and writing systems and to review the deep history of Mesopotamia, Egypt, the Indo Valley and China and identify the strategies and mechanisms used by dominant groups to create and maintain social inequality.
LATIN AMERICAN STUDIES	**LRI2 061**	At the end of the course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary dilemmas.
ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0 011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
MODERN ETHNOLOGY OF MEXICO	**LAC3 021**	At the end of the course, the student will develop a solid foundation on the ways of life, culture and social organization of the indigenous groups of Mesoamerica and northern Mexico in the current era, the human-environment relations, the linguistic situation, the economic, political and social structures operating within the main indigenous groups , as well as the religious and artistic aspects that characterize them and to analyze the position of the ethnic group in the national society, emphasizing the impact of this on the development of indigenous groups.
MYTH, MAGIC AND RELIGION	**LAC3 031**	At the end of the course, the student will analyze the intellectual history of the scientific study of mythical, magical and religious beliefs and build an appreciation of the similarities and differences of these phenomena between various human societies.
SELECT TOPICS I	**TAC4 011**	At the end of the course, the student will apply and relate the knowledge in cultural anthropology from a current point of view.
ETHNOLOGICAL THEORY	**LAC3 041**	At the end of the course, the student will master the premises, arguments, contributions and limitations of the theoretical currents that currently characterize the anthropological debate, analyze, criticize and explain orally the ideas and central

		arguments of a text, and discern and argue these with the other members of the class in a coherent and understandable way.
ECONOMIC AND POLITICAL ANTHROPOLOGY	**LAC3 051**	At the end of the course, the student will master the classical ethnographies of economic and political anthropology and identify and criticize the different theoretical positions that anthropology has developed for the study of the economic and political dimensions of indigenous societies worldwide.
LEGAL ANTHROPOLOGY	**LAC3 061**	At the end of this course, the student will identify theories and basic concepts about the study of the legal systems of various societies, analyze the changes in the methodologies and research topics of legal anthropology during the twentieth century and relate these transformations with the changing social and political contexts of ethnographic research.
MEDICAL ANTHROPOLOGY	**LAC3 081**	At the end of the course, the student will describe the different theoretical anthropological currents of health and disease, analyze the factors that determine the well-being of a society and between different societies and discuss the specific cultural and social responses that cause the disease in several societies.
RURAL ANTHROPOLOGY	**LAC3 071**	At the end of the course, the student will master the conceptual management of the sociocultural characteristics of the world peasant societies, especially those of Latin America, and compare, contrast and discern the theoretical-conceptual debates that have been generated around the analysis of peasants and their insertion within capitalist economies.
DOCUMENTARY	**LPM 4011**	At the end of the course, the student will analyze different types of documentaries and produce a documentary without dialogue and a short documentary.
SELECT TOPICS II	**TAC4 021**	At the end of the course, the student will apply and relate the knowledge in cultural anthropology from a current point of view.
URBAN ANTHROPOLOGY	**LAC4 021**	At the end of the course, the student will compare the approaches of the different currents in the field of urban anthropology and analyze the situation of the different actors involved, as well as the interaction they establish with the different areas of the urban.
RESEARCH DESIGN	**LAQ4 041**	At the end of the course, the student will ask a research question, design the methodology of a project and manage the theoretical framework in their field of study.
POLITICAL ECOLOGY	**LAC4 041**	At the end of the course, the student will describe the different theoretical currents of political ecology, identify the economic, political, cultural and social factors that contribute to human-environmental relations and analyze the application of

		theoretical and methodological tools to contemporary human-environmental problems.
PROFESSIONAL PRACTICE I	**LAC4 011**	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of anthropology and solve situations of adaptation to a new work environment.
SEMINAR ON REGIONAL ETHNOLOGY	**LAC4 031**	At the end of the course, the student will analyze a topic to be selected related to a specific social problem, or to the current anthropological theory and praxis related to an ethnographic region and criticize written works; the theme will be selected according to the competences of the different teachers of the program
SELECT TOPICS III	**TAC4 031**	At the end of the course, the student will apply and relate the knowledge in cultural anthropology from a current point of view.
APPLIED ANTHROPOLOGY	**LAC4 061**	At the end of the course, the student will contrast the different epistemological currents of applied anthropology and identify the possibilities of contribution that from our discipline can be made to the resolution of social problems.
GENDER ANTHROPOLOGY	**LAC4 091**	At the end of the course, the student will analyze a set of social and cultural problems from a gender perspective, establish gender criteria based on the analysis of multiple variables and comprehensively diagnose specific cross-cultural cases.
CASE STUDY	**LAQ4 071**	At the end of the course, the student will apply the research design methodology, analyze and interpret the data obtained and produce a research document.
GLOBALIZATION	**LAC4 071**	At the end of the course, the student will analyze the insertion of the so-called peasant/indigenous "traditional economies" of Mexico in the globalization process and evaluate the impact of this on the social and productive forms of rural and marginalized groups.
PROFESSIONAL PRACTICE II	**LAC4 051**	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of cultural anthropology and to solve situations of adaptation to a new work environment.
SEMINAR IN CULTURAL ANTHROPOLOGY	**LAC4 081**	At the end of the course, the student will analyze a topic to be selected related to a specific social problem, or to the current anthropological theory and praxis and criticize written works; the theme will be selected according to the competencies of the different teachers in the program.

LICENCIATURA IN POLITICAL SCIENCE

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
POLITICAL PHILOSOPHY	LRI1011	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of political philosophy from a theoretical perspective; 2) the relevance of the main ideas of Western philosophical thought; (3) the relationship between philosophical ideas of a political nature and the exercise of politics; and 4) the relationship between ideas, institutions, individuals and interests in the formulation of public policies by the State.
INTRODUCTION TO POLITICAL SCIENCE	LPT1011	At the end of the course, the student will: 1) understand and apply some of the fundamental concepts of political science; and 2) distinguish the main contemporary theoretical currents, as well as their political implications, from this discipline.
INTRODUCTION TO INTERNATIONAL RELATIONS	LRI1021	At the end of the course, the student will: 1) understand and apply concepts important to the analysis of international relations; and 2) assess the relevance of the study of international relations.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
DESCRIPTIVE STATISTICS	MAT2031	At the end of the course, the student will handle the basic concepts of mathematical notation used in the descriptive analysis of the data, know the relationship of statistics with the scientific method to understand and apply the

		descriptive statistical methods in the analysis of social issues.
HISTORY OF INTERNATIONAL RELATIONS	**LRI1041**	At the end of the course, the student will: 1) analyze the development of the international system from its origins until 1914; and (2) to evaluate different interpretations of the development of the international system from its origins to 1914.
FOREIGN LANGUAGE II	**LEX0121**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
RESEARCH METHODS AND TECHNIQUES	**LRI1061**	At the end of the course, the student will learn the most important research methods and techniques. They will research work independently.
CONTEMPORARY MEXICAN POLITICS	**LRI1031**	At the end of the course, the student will: 1) analyze the development of the Mexican political system from the Constitution of 1917 to the year in which the course takes place; and 2) construct different periodizations of Mexican politics at the time analyzed, presenting in a critical way the criteria on which they are based.
CONTEMPORARY POLITICAL THEORIES	**LRI1051**	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of modern political thought; 2) the practical relevance of the main ideologies of Western philosophical thought; (3) the relationship between political ideology and the exercise of politics; and 4) the importance of ideologies in the political evolution of humanity in time and space.
CONSTITUTIONAL LAW	**LDE1041**	At the end of the course, the student will explain in a critical and substantiated way the principle of constitutional supremacy and the structure of the Political Constitution of the United Mexican States. They will also participate actively in the simulation of each of the stages of the legislative process specified in the Political Constitution of Mexico.
CONTEMPORARY WORLD HISTORY	**LRI2011**	At the end of the course, the student will: 1) analyze the development of the international system from 1914 to the present moment; and (2) to assess different interpretations of the development of the international system from 1914 to the present time.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

COMPARATIVE POLITICS	LRI2021	At the end of the course, the student will understand the theoretical foundations of comparativism and the forms of parliamentary and republican government that the countries of the world have sought to imitate. Analyzes and compares selected examples of forms of government for all continents.
PRINCIPLES OF ECONOMICS	LEC1011	At the end of the course, the student will understand the essential aspects of the most relevant economic problems and to use the most basic techniques of Economic analysis to propose solutions.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
ADMINISTRATIVE LAW	LDE2061	At the end of the course, the student will solve practical cases, through the interposition of a means of defense to challenge the acts of the public administration that harm the legal sphere of the individual, with support in the current legislation and in the existing criteria of interpretation.
GEOPOLITICS AND NATURAL RESOURCES	LRI2051	At the end of the course, the student will make geopolitical analysis of the different regions and countries of the world. They will identify the leading theorists of geopolitics and use their ideas in analyses, identifying the main raw materials of the world today and its projection into the future.
POLITICAL INSTITUTIONS AND DEMOCRACY	LPT2011	At the end of the course, the student will: 1) understand the concept of political institution, its place in current political theory and its relevance to understanding contemporary politics; and 2) analyze the institutions of democratic systems.
PUBLIC POLICIES	LRI2041	At the end of the course, the student will: 1) understand the concept of public policy and its main stages; 2) critically assess the approach to a public problem, the design of the implementation for its solution, and the characteristics of a policy assessment.

U.S. SOCIETY AND POLITICS	LRI2081	At the end of the course, the student will understand the society, government and politics of the United States.
INTERNATIONAL RELATIONS THEORY	LRI2071	At the end of the course, the student will: 1) evaluate different theories about the actions and interactions of various international actors; and (2) apply general propositions that describe and explain different aspects of international relations.
POLITICAL BEHAVIOR	LPT3031	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of political behavior; 2) the practical relevance of the main lines of research on political behaviour; (3) the relationship between the political behaviour of the individual and the exercise of politics; 4) the importance of political behaviour in the development of contemporary democratic and non-democratic systems.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
METHODS OF POLITICAL ANALYSIS	LPT3011	At the end of the course, the student will understand the points reviewed during the learning process and be ready to apply their knowledge.
MEXICAN FOREIGN POLICY I	LRI3011	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of Mexico's foreign policy towards North America; 2) the practical relevance of Mexico's foreign policy in the concert of nations; (3) the relationship between Mexican foreign policy and its Canadian and U.S. counterparts; and 4) the importance of globalization in the political and economic spheres in the foreign policies of Canada, the United States and Mexico.
SECURITY THEORIES	LPT3041	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of security theories; 2) the theoretical relevance of national security in different international contexts; 3) convergences and divergences between U.S. and Mexican security theories and 4) the importance of national security as a theoretical concept in political science.

DEVELOPMENT THEORIES AND PRACTICES	**LPT3021**	At the end of the course, the student will analyze development processes and practices and their sustainability. To reflect and criticize the different theoretical positions that development studies have contributed to study the problem of development.
COMMUNICATION AND GLOBALIZATION	**LIP3041**	At the end of the course, the student will explain in writing the theoretical frameworks through which the development of modern globalization and its impact on communication and the media within political, economic and social contexts are analyzed; apply appropriate concepts and terms through case analysis focused on the processes of globalization and communication, their interrelationship and their impact on a local, regional and global environment.
GLOBAL POLITICAL ECONOMY	**LRI3041**	At the end of the course, the student will analyze processes and dynamics related to global political economy, as well as work and collaborate successfully in a group.
FEDERALISM AND LOCAL GOVERNMENTS	**LPT3051**	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of the relationship between federal authorities and local governments; 2) the practical relevance of the main lines of research on federalism; 3) the political relationship between representative laws and institutions in the federation and local governments and 4) the importance of constitutional aspects in the relationship between the federation and local governments.
PARTIES AND PARTY SYSTEMS	**LPT3061**	At the end of the course, the student will: 1) Understand the concepts of parties and party system and 2) analyze the different types of parties and party systems, their characteristics and their consequences for the whole political system.
SECURITY IN THE GLOBAL CONTEXT	**LRI3051**	At the end of the course, the student will: 1) analyze issues related to national, international and human security; and (2) assess different ways to promote human security.
SELECT TOPICS I	**TPT4011**	At the end of the course, the student will make use of the knowledge acquired during their studies and deepen the study and analysis of international policy.
ELECTORAL LAW	**LDE3021**	At the end of the course, the student will participate actively in the solution of practical cases by challenging electoral matters, based on the information provided by the teacher and with the support of the applicable legislation.

POLITICAL MARKETING	LPT4021	At the end of the course, the student will understand the techniques that are carried out within the political marketing and can analyze them objectively.
HUMAN RIGHTS POLICY	LRI4031	At the end of the course, the student will reflect and criticize the different theoretical positions that human rights studies have contributed to analyze current problems, influencing the creation and implementation of national and international policy on human rights.
U.S. FOREIGN POLICY	LRI3071	At the end of the course, the student will: 1) analyze the development of U.S. foreign policy from 1776 to the present moment; and 2) evaluate different interpretations of U.S. foreign policy from 1776 to the present day.
PROFESSIONAL PRACTICE I	LPT4011	At the end of the course, the student will put into practice the knowledge acquired to evaluate and take part in the solution of problems and situations of their profession, establishing a link between theory and practice.
SELECT TOPICS II	TPT4021	At the end of the course, the student will make use of the knowledge acquired during their studies and deepen the study and analysis of international policy.
CONTEMPORARY LATIN AMERICA	LRI4091	At the end of the course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary dilemmas.
SOCIAL MOVEMENTS AND CIVIL SOCIETY IN GLOBALIZATION	LPT4051	At the end of the course, the student will understand the causes and goals of social movements in a globalized world.
POLICY AND NEW TECHNOLOGIES	LPT4041	At the end of the course, the student will explain the most complex sociological and philosophical notions of technology and their role in stimulating (or discouraging) public debate and political activities.
PUBLIC POLICY PRACTICE	LPT4061	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of the practice of public policies; 2) the practical relevance of the main lines of research on the application of public policies; 3) the relationship between the public interest and the implementation of public policies and 4) the importance of efficient public policies in contemporary Mexico.
PROFESSIONAL PRACTICE II	LPT4031	At the end of the course, the student will put into practice the knowledge acquired to evaluate and take part in the solution of problems and situations of their profession, establishing a link between theory and practice.
SELECT TOPICS III	TPT4031	At the end of the course, the student will make use of the knowledge acquired during their studies and deepen the study and analysis of international policy.

COMMUNICATION AND IMAGE

ENGLISH I	**ESP0011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INFORMATION AND SOCIETY	**LIP2021**	At the end of the course, the student will understand patterns and social structures that influence the management of information in society, and conceptually base different systems of information circulation.
INTRODUCTION TO COMMUNICATION	**LIP1011**	At the end of the course, the student will master the basic concepts of communication and know the social, cultural and technological development of the media.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ADMINISTRATION OVERVIEW	**ADM1011**	At the end of the course, the student will describe the nature of the administration, its characteristics and its dynamic process, in addition to understanding the essence of the administrative profession and the functional areas in business.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
COMMUNICATION AND EDITORIAL PRODUCTION	**LIP2061**	At the end of the course, the student will identify, describe and explain the basic principles of editorial product design, such as typography, image editing, the use of grids and diagramming strategies in magazines and newspapers; as well as understand the importance of editorial communication and know how to participate in the design of editorial products.
SPANISH II	**ESP0021**	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They

		will manage them as expressions to construct and disseminate academic and scientific knowledge.
DESCRIPTIVE STATISTICS	**MAT2031**	At the end of the course, the student will handle the basic concepts of mathematical notation used in the descriptive analysis of the data, know the relationship of statistics with the scientific method to understand and apply the descriptive statistical methods in the analysis of social issues.
INTRODUCTION TO JOURNALISM	**LPM1041**	At the end of the course, the student will demonstrate mastery of the main theoretical approaches to the study of journalism and their social relevance by asking questions and addressing their possible solutions; discuss and analyze the problems of the press in a critical and informed way, holding an interdisciplinary vision of the media reality.
FOREIGN LANGUAGE II	**LEX0121**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
LANGUAGE OF CINEMA I	**LPM1021**	At the end of the course, the student will identify, describe and explain the main accomplishments in the first sixty years of cinema and write an analysis of a film in accordance with the evolution and use of the techniques of narrative and cinematic language.
THEORETICAL COMMUNICATION SCHOOLS	**LIP2011**	At the end of the course, the student will understand the main concepts that explain the management of communication and information processes in society, and assess the importance of responding to social needs for information and communication.
INFERENTIAL STATISTICS	**MAT2041**	At the end of the course, the student will use the tools of inferential statistics and apply parametric and nonparametric tests in the systematic analysis of data investigated in the social sciences
MARKETING FUNDAMENTALS	**LMK1011**	At the end of the course, the student will identify the principles and key elements of marketing (product, price, place and promotion) to develop a market strategy, to create value for customers.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing
PRODUCTION OF JOURNALISTIC GENRES	**LPM2011**	At the end of the course, the student will identify and argue the different elements of journalistic practice and writing, as well as master the knowledge of the ethical

		principles of their production and write exercises of the main journalistic genres.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
CONSUMER BEHAVIOR	**LMK1021**	At the end of the course, the student will understand consumer behavior in marketing practice, understand the training and change of attitudes, achieve an effective segmentation of the market, and identify the influence of contextual factors in purchasing behavior, to identify the different models of the consumer's purchasing process.
ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
PHOTOGRAPHY	**LIV2051**	At the end of the course, the student will master a professional digital camera, as well as the equipment of a photographic studio to take high quality images, both in a studio and outdoors. Understand the language of photography, applying it in the planning, production and evaluation of photographic material.
METHODOLOGICAL COMMUNICATION PERSPECTIVES	**LIP2031**	At the end of the course, the student will manage the processes of quantitative research in the field of communication and write a report of the results of a survey.
CONTEMPORARY MEXICAN POLITICS	**LRI1031**	At the end of the course, the student will: 1) analyze the development of the Mexican political system from the Constitution of 1917 to the year in which the course takes place; and 2) construct different periodizations of Mexican politics at the time analyzed, presenting in a critical way the criteria on which they are based.
AUDIOVISUAL PRODUCTION TECHNIQUES	**LPM2061**	At the end of the course, the student will express and correlate their messages in a creative and clear way through video production techniques, making videos through the basic knowledge acquired of the most relevant aspects of each of the stages of the audiovisual production process.

FUNCTIONALIST THEORIES OF COMMUNICATION	**LIP2051**	At the end of the course, the student will describe the functionalist sociological perspective within which the first theories of communication were developed in the United States and to identify the main theories of the effects of mass media and their main findings about social and psychological impact.
ORGANIZATIONAL COMMUNICATION	**LIP3021**	At the end of the course, the student will master the conceptual and operational management of organizational communication, historical contextualization and the elements that comprise their internal and external use in the different types of organizations. They will design internal means of communication that favor organizational culture.
ADVANCED DIGITAL IMAGE EDITING	**LIV3011**	At the end of the course, the student will edit digital images using specialized software to communicate a visual message to a given audience. They will apply advanced theoretical knowledge of the handling of images for screen and printing by effectively defining the appropriate parameters for the medium in which it is reproduced.
EDUCATION FOR CRITICAL MEDIA RECEPTION	**LID4031**	At the end of the course, the student will develop their skills of critical reception before the media, being able to use these skills to analyze television and digital media messages. They will design strategies to promote critical reception before the media in different population groups and educational settings, both formal and informal.
FUNDAMENTALS OF QUALITATIVE RESEARCH	**LIP3051**	At the end of the course, the student will define the basic concepts related to the approach of research problems from the qualitative (ethnographic) perspective in addition, they will understand the advantages and limitations of qualitative methodologies, to design public opinion studies, using the basic techniques of in-depth interview and participant observation.
QUANTITATIVE RESEARCH WORKSHOP	**LIP3011**	At the end of the course, the student will understand and apply in inferential and multivariate statistics on opinion and public image, carrying out a survey using "Statistical Package for the Social Sciences" software.
CRITICAL THEORIES AND CULTURAL STUDIES	**LIP3031**	At the end of the course, the student will critically analyze the patterns, structures and social processes that influence the behavior of individuals as consumers of information, and support systems of dissemination of critical content or alternative media projects.

COMPREHENSIVE MARKETING COMMUNICATION	LMK2021	At the end of the course, the student will understand the importance of communicating to the customer the products or services offered, through the different tools of integral marketing communication and to apply the knowledge and tools that allow him to analyze and carry out integral communication campaigns.
COMMUNICATION AND ORGANIZATIONAL DEVELOPMENT	LIP3061	At the end of the course, the student will know the appropriate methods and techniques to identify and solve with creativity problems and real needs of external communication of the organizations and their local, national and global environment; master the main concepts related to organizational development.
COMMUNICATION AND GLOBALIZATION	LIP3041	At the end of the course, the student will explain in writing the theoretical frameworks through which the development of modern globalization and its impact on communication and the media within political, economic and social contexts are analyzed; apply appropriate concepts and terms through case analysis focused on the processes of globalization and communication, their interrelationship and their impact on a local, regional and global environment.
RIGHT TO INFORMATION	LDE2021	At the end of the course, the student will identify the normative framework of this branch of law and its fundamental concepts, such as freedom of expression, right to honor, right to one's own image and right to private life. Likewise, they will solve practical cases of the right of access to public information and protection of personal data with knowledge of the different means of challenge and the competent authority for its processing.
CORPORATE IMAGE EVALUATION	LIP3071	At the end of the course, the student will correctly apply the different mechanisms to make a corporate image diagnosis of a company or institution, and make a proposal to improve or strengthen it, according to the identified need.
MULTIMEDIA PRODUCTION	LPM2051	At the end of the course, the student will produce pages of websites with multimedia content using various techniques; modify and adapt design needs and content using BLOGS, WIKIS or similar websites.
DESIGN AND EVALUATION OF COMMUNICATION PROJECTS	LPM4041	At the end of the course, the student will design and evaluate communication systems or dissemination of information that positively impacts the behavior of people, groups or specific audiences, developing comprehensive media and message projects.

ETHICS AND COMMUNICATION	**LIP4021**	At the end of the course, the student will understand and value the social structures and processes that influence the behavior, adequate or not, of those who manage information and communication systems, and support the design of adequate communication systems and circulation of information.
MEDIA PLANNING AND BTL	**LMK3031**	At the end of the course, the student will identify the importance of supporting a comprehensive marketing communication strategy with the correct and effective selection of mass or alternative means of communication, through an adequate planning of means that maximize the profitability of the advertising investment.
PROFESSIONAL PRACTICE I	**LIP4031**	At the end of the course, the student will demonstrate knowledge and experiences learned during the internship seminar, and apply the knowledge and skills acquired through these professional practices.
QUALITATIVE RESEARCH WORKSHOP	**LIP4011**	At the end of the course, the student will effectively apply the qualitative research technique called "discussion groups" or "focus groups" and write reports of findings, as well as effectively perform qualitative studies that involve the analysis of texts and documents.
SELECT TOPICS I	**TIP4011**	At the end of the course, the student will demonstrate, orally and in writing, knowledge and skills directly related to the subject of specialization and apply that knowledge and skills in a practical way.
CRISIS COMMUNICATION	**LIP4061**	At the end of the course, the student will identify the various theoretical perspectives with which risk or crisis communication is studied, and analyze current crisis situations to develop a communication model that comprehensively considers the needs of specific issuers and audiences.
DEVELOPMENT AND SOCIAL CHANGE COMMUNICATION	**LIP4041**	At the end of the course, the student will diagnose communication and information needs for social development, and design and evaluate communication systems or dissemination strategies to support development and social change in specific topics.
IMAGE AND PUBLIC RELATIONS	**LMK3061**	At the end of the course, the student will evaluate and apply basic theory, models, tools and essential techniques that intervene in the public relations, acquiring a comprehensive understanding of the area and valuing the role it plays in any organization, as well as the importance of its public image and professional behavior.

PROFESSIONAL PRACTICE II	**LIP4051**	At the end of the course, the student will demonstrate knowledge and experiences learned during the internship seminar, and to apply the knowledge and skills acquired through these professional practices.
SELECT TOPICS II	**TIP4021**	At the end of the course, the student will demonstrate, orally and in writing, knowledge and skills directly related to the subject of specialization and apply that knowledge and skills in a practical way.
SELECT TOPICS III	**TIP4031**	At the end of the course, the student will demonstrate, orally and in writing, knowledge and skills directly related to the subject of specialization and apply that knowledge and skills in a practical way.

LICENCIATURA IN COMMUNICATION AND MEDIA PRODUCTION

ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
ENGLISH I	**ESP0011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INFORMATION AND SOCIETY	**LIP2021**	At the end of the course, the student will understand patterns and social structures that influence the management of information in society, and to conceptually base different systems of information circulation.
INTRODUCTION TO COMMUNICATION	**LIP1011**	At the end of the course, the student will master the basic concepts of communication and to know the social, cultural and technological development of the media.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.

SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
DESCRIPTIVE STATISTICS	MAT2031	At the end of the course, the student will handle the basic concepts of mathematical notation used in the descriptive analysis, understanding the relationship of statistics with the scientific method to apply the methods in the analysis of social issues.
INTRODUCTION TO JOURNALISM	LPM1041	At the end of the course, the student will demonstrate mastery of the main theoretical approaches to the study of journalism and their social relevance by asking questions and addressing their possible solutions; discuss and analyze the problems of the press in a critical and informed way, holding an interdisciplinary vision of the media reality.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
LANGUAGE OF CINEMA I	LPM1021	At the end of the course, the student will identify, describe and explain the main accomplishments in the first sixty years of cinema and write an analysis of a film in accordance with the evolution and use of the techniques of narrative and cinematic language.
LANGUAGE OF SOUND	LPM1031	At the end of the course, the student will design and produce auditory messages with communicative richness through the intentional use of the expressive sound code resources, correctly operating the basic phase of the analog and digital equipment to record and reproduce sound.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
THEORETICAL SCHOOLS OF COMMUNICATION	LIP2011	At the end of the course, the student will understand the main concepts that explain the management of communication and information processes in society, and assess the importance of responding to social information and communication needs.
INFERENTIAL STATISTICS	MAT2041	At the end of the course, the student will use the tools of inferential statistics and apply parametric and

		nonparametric tests in the systematic analysis of data investigated in the social sciences
SCREENWRITING	**LPM2031**	At the end of the course, the student will write a basic analysis of a film from the point of view of the main components of the script and write a short film and the segmentation of a feature film.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
LANGUAGE OF CINEMA II	**LPM2021**	At the end of the course, the student will identify, describe and explain the main myths of contemporary cinema and write both a review and a critical analysis of a film.
PRODUCTION OF JOURNALISTIC GENRES	**LPM2011**	At the end of the course, the student will identify and argue the different elements of journalistic practice and writing and master the knowledge of the ethical principles of their production, writing exercises of the main journalistic genres.
PHOTOGRAPHY	**LIV2051**	At the end of the course, the student will master a professional digital camera, as well as the equipment of a photographic studio to take high quality images, both in a studio and outdoors. Understand the language of photography, applying it in the planning, production and evaluation of photographic material.
ADVANCED SCREENWRITING	**LPM2071**	At the end of the course, the student will analyze in writing alternative films to the classic Hollywood narrative, write an adaptation of a short film, to re-write a short film and/or the segmentation of a feature film.
METHODOLOGICAL COMMUNICATION PERSPECTIVES	**LIP2031**	At the end of the course, the student will manage the processes of quantitative research in the field of communication and write a report of the results of a survey.
MULTIMEDIA PRODUCTION	**LPM2051**	At the end of the course, the student will produce pages of websites with multimedia content using various techniques; modify and adapt design needs and content using BLOGS, WIKIS or similar websites.
RADIO PRODUCTION	**LPM2081**	At the end of the course, the student will identify and use the elements of radio language in conjunction with the nature of the radio medium and to recognize the phases of pre-production, conduction and production to create short formats of successful radio information.
JOURNALISTIC WRITING AND STYLE	**LPM2041**	At the end of the course, the student will understand editorial principles, correct texts and write notes in journalistic style at a professional level.

AUDIOVISUAL PRODUCTION TECHNIQUES	LPM2061	At the end of the course, the student will express and correlate messages in a creative and clear way through video production techniques, making videos through the basic knowledge acquired of the most relevant aspects of each of the stages of the audiovisual production process.
ADVANCED DIGITAL IMAGE EDITING	LIV3011	At the end of the course, the student will edit digital images using specialized software to communicate a visual message to a given audience. They will apply advanced theoretical knowledge of the handling of images for screen and printing by effectively defining the appropriate parameters for the medium in which it is reproduced.
DIGITAL EDITION	LPM3031	At the end of the course, the student will edit a video in a non-linear way, properly using the various existing editing techniques and approaches to properly follow a workflow that includes the organization of material, the evaluation of shots and the application of aesthetic and narrative criteria for the execution of the assembly.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
DIGITAL AND CITIZEN JOURNALISM	LPM3011	At the end of the course, the student will understand and explain the relevance, as well as the scope and limitations of digital and citizen journalism, and develop a digital journalism project using new technologies.
ADVANCED RADIO PRODUCTION	LPM3021	At the end of the course, the student will design and propose the production of a special broadcast and define the tasks to be performed for its production; produce and present radio proposals in long formats.
QUANTITATIVE RESEARCH WORKSHOP	LIP3011	At the end of the course, the student will understand and apply in inferential and multivariate statistics on opinion and public image, carrying out a survey using "Statistical Package for the Social Sciences" software.
COMMUNICATION AND GLOBALIZATION	LIP3041	At the end of the course, the student will explain in writing the theoretical frameworks through which the development of modern globalization and its impact on communication and the media within political, economic and social contexts are analyzed; and to apply appropriate concepts and terms through case analysis focused on the

		processes of globalization and communication, their interrelationship and their impact on a local, regional and global environment.
RIGHT TO INFORMATION	**LDE2021**	At the end of the course, the student will identify the normative framework of this branch of law and its fundamental concepts, such as freedom of expression, right to honor, right to one's own image and right to private life. Likewise, they will solve practical cases of the right of access to public information and protection of personal data with knowledge of the different means of challenge and the competent authority for its processing.
INTRODUCTION TO ANIMATION TECHNIQUES	**LND1021**	At the end of the course, the student will recognize and explain what traditional techniques (such as frame by frame, pixelation, and acetate animation) and basic principles of animation that underpin digital animation consist of and apply the techniques in a basic way.
INVESTIGATIVE JOURNALISM	**LPM3041**	At the end of the course, the student will explain in writing the different definitions of investigative journalism, as well as its characteristics and develop an investigative journalism project following the appropriate phases, the most current tools to collect information; they will analyze, organize and draft the relevant information for the project.
AUDIOVISUAL PRODUCTION	**LPM3061**	At the end of the course, the student will express and correlate their messages in a creative and clear way through video production techniques and make videos through the basic knowledge acquired of the most relevant aspects of each of the stages of the audiovisual production process.
PRODUCTION IN PRINT MEDIA	**LIV3021**	At the end of the course, the student will distinguish the difference between the production systems in printed media, the types of materials and technical requirements necessary to recognize the relevance of using each system as a solution to a specific production need.
DESIGN AND EVALUATION OF COMMUNICATION PROJECTS	**LPM4041**	At the end of the course, the student will design and evaluate communication systems or dissemination of information that positively impact the behavior of people, groups or specific audiences, and develop comprehensive media and message projects.
DOCUMENTARY	**LPM4011**	At the end of the course, the student will analyze different types of documentaries and produce a documentary without dialogue and a short documentary.

PROFESSIONAL PRACTICE I	**LPM4021**	At the end of the course, the student will demonstrate knowledge and experiences learned during their professional practices and apply the knowledge and skills acquired.
TELEVISION PRODUCTION	**LPM4031**	At the end of the course, the student will develop in writing a pilot program project considering target audience, gender requirements and content within a program bar; as well as technical, commercial or institutional aspects, and produce a television program by properly applying knowledge and techniques in the pre-production, production and post-production stages.
QUALITATIVE RESEARCH WORKSHOP	**LIP4011**	At the end of the course, the student will effectively apply the qualitative research technique called "discussion groups" or "focus groups" and to write reports of findings, as well as to effectively perform qualitative studies that involve the analysis of texts and documents using the technique of discourse analysis.
SELECT TOPICS I	**TPM4011**	At the end of the course, the student will demonstrate orally and in writing, knowledge and skills directly related to the subject of specialization and apply iy the knowledge and skills acquired in a communication project.
DIGITAL CINEMA	**LPM4061**	At the end of the course, the student will properly apply the principles and techniques of cinema to a high-resolution digital video production and develop and produce an audiovisual project, in a creative and original way, in a short film format in digital video.
DEVELOPMENT AND SOCIAL CHANGE COMMUNICATION	**LIP4041**	At the end of the course, the student will diagnose communication and information needs and design and evaluate communication systems or dissemination strategies to support development and social change in specific topics.
SOUND DESIGN AND EDITING	**LPM4071**	At the end of the course, the student will edit, synchronize and mix the sounds to produce a master, depending on whether it is intended for radio, multimedia, television or cinema and manage the multiple possibilities and tools offered by computer programs for the treatment and manipulation of sound.
PROFESSIONAL PRACTICE II	**LPM4051**	At the end of the course, the student will demonstrate knowledge and experiences learned during their professional practices and apply the knowledge and skills acquired.
SELECT TOPICS II	**TPM4021**	At the end of the course, the student will demonstrate orally and in writing, knowledge and skills directly related

		to the subject of specialization and apply iy the knowledge and skills acquired in a communication project.
SELECT TOPICS III	TPM4031	At the end of the course, the student will demonstrate orally and in writing, knowledge and skills directly related to the subject of specialization and apply iy the knowledge and skills acquired in a communication project.

LAW

FUNDAMENTAL RIGHTS	LDE1011	At the end of the course, the student will explain in writing the origins, concept, classification and importance of fundamental rights, identify the main international instruments in which they are contained and efficiently manage the mechanisms of jurisdictional and non-jurisdictional protection existing at the national and international levels.
ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO POLITICAL SCIENCE	LPT1011	At the end of the course, the student will: 1) understand and apply some of the fundamental concepts of political science; and 2) distinguish the main contemporary theoretical currents, as well as their political implications, from this discipline.
INTRODUCTION TO LAW AND NOTIONS OF CIVIL LAW	LDE1021	At the end of the course, the student will participate actively in the formation of laws, through knowledge of the legislative process and the content of the different legal disciplines; it will be able to differentiate between the legal institutions established by civil law in relation to individuals and the family, as well as ssolving legal problems through the application of legislation and jurisprudence.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
PROPERTY AND SUCCESSION	LDE1061	At the end of the course, the student will raise and solve problems related to the interpretation and application of the provisions of the Civil Code that regulate rights. They

		will analyze a public will in the light of doctrine, legislation and jurisprudence, to determine if it satisfies the requirements of existence and validity that any legal act must contain.
RESEARCH METHODS AND TECHNIQUES	LRI1061	At the end of the course, the student will learn the most important theories of research methods and techniques.
THEORY OF CRIME	LDE1051	At the end of the course, the student will differentiate the stages of the evolution of criminal ideas, have certainty about the application of criminal law, distinguish penalties from security measures, as well as determine their application to specific cases.
SPECIFIC CRIMES	LDE2041	At the end of the course, the student will determine the specific elements that constitute each crime and frame the criminal conduct with support in the legislation and jurisprudence.
RIGHT TO INFORMATION	LDE2021	At the end of the course, the student will identify the normative framework of this branch of law and its fundamental concepts, such as freedom of expression, right to honor, right to one's own image and right to private life. Likewise, solve practical cases of the right of access to public information and protection of personal data with knowledge of the different means of challenge and the competent authority for its processing.
HEALTH AND ENVIRONMENTAL LAW	LDE2011	At the end of the course, the student will raise and solve problems through the application of health and environmental legislation; also, know the functioning of health and environmental institutions in Mexico and the world.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
GENERAL THEORY OF OBLIGATIONS	LDE2031	At the end of the course, the student will identify and apply the provisions of the Civil Code and the Commercial Code to solve problems related to the existence, validity and effectiveness of legal acts of a civil and commercial nature.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as

		the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
CIVIL AND COMMERCIAL CONTRACTS	LDE2091	At the end of the course, the student will write and interpret a typical civil or commercial contract, which meets the essential requirements, validity and effectiveness necessary for it to produce its effects.
ADMINISTRATIVE LAW	LDE2061	At the end of the course, the student will solve practical cases, through the interposition of a means of defense to challenge the acts that harm the legal sphere of the individual, with support in the current legislation and in the existing criteria of interpretation.
INTELLECTUAL PROPERTY LAW	LDE2071	At the end of the course, the student will analyze and apply the legal framework of intellectual property law through the approach and solution of practical cases.
CONSTITUTIONAL PROCEDURAL LAW	LDE2051	At the end of the course, the student will explain the main characteristics and distinctions between the constitutional controversy and the action of unconstitutionality as well as to elaborate a flowchart that contains the procedural stages of its processing in accordance with article 105 of the Constitution and its regulatory law.
CRIMINAL PROCEDURAL LAW	LDE2081	At the end of the course, the student will prepare motions and proceedings in the criminal process, participate in providing evidence and use these to formulate charges, discharges or achieve reparation of the damage.
PUBLIC POLICIES	LRI2041	At the end of the course, the student will: 1) understand the concept of public policy and its main stages; 2) critically assess the approach to a public problem, the design of the implementation for its solution, and the characteristics of a policy assessment.
BANKING LAW	LDE3041	At the end of the course, the student will identify and apply the rules that regulate the activities of banking companies and their operations in the intermediation in credit operations.
CORPORATE LAW	LDE3031	At the end of the course, the student will establish in writing a strategic plan for the prevention and management of risks in a company and, where appropriate, propose the means for their legal defense.
ELECTORAL LAW	LDE3021	At the end of the course, the student will participate actively in the solution of practical cases through the processing of means of challenge in electoral matters,

		based on the information provided by the teacher and with the support of the applicable legislation.
COMPUTER LAW	LDE3051	At the end of the course, the student will establish in writing the concept, nature, characteristics, classification and evidentiary value of electronic documents, in accordance with existing doctrine, jurisprudence and national and international legislation.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
SECURITIES AND CREDIT OPERATIONS	LDE3011	At the end of the course, the student will identify the requirements that any credit title must contain to be considered as such of those that are correctable, as well as interpret the provisions of the General Law of Titles and Credit Operations that are applicable for this purpose.
FOREIGN TRADE LAW	LDE3071	At the end of the course, the student will solve problems that arise in foreign trade through legal argumentation and using applicable legislation and jurisprudence.
TAX LAW	LDE3081	At the end of the course, the student will identify the financial activity of the state and the relations between it and individuals, as well as the legal norms that are applicable to revenues and public expenditure.
PRIVATE INTERNATIONAL LAW	LDE3101	At the end of the course, the student will solve problems arising from international legal traffic, using the various existing methods for this purpose, as well as to explain the procedure provided for in the Federal Code of Civil Procedures and in international treaties to carry out the recognition and enforcement of foreign awards and resolutions.
PUBLIC INTERNATIONAL LAW	LDE3061	At the end of the course, the student will solve problems typical of public international law, through the interpretation and application of international treaties, and with support in custom, jurisprudence and general principles of international law
CIVIL AND COMMERCIAL PROCEDURAL LAW	DE3091	At the end of the course, the student will formulate, verbally or in writing, a claim in which the action for termination of a civil contract that satisfies the

		requirements of form, substance and forensic practice is exercised; likewise, they will carry out the simulation of a trial of a civil, commercial or family nature, playing the role of the plaintiff, the defendant or the judicial personnel.
SELECT TOPICS I	TDE4011	At the end of the course, the student will relate the knowledge acquired on current issues in the various branches of law and apply them in the solution of social sciences problems.
RIGHT OF AMPARO	LDE4021	At the end of the course, the student will file a claim for indirect amparo in which the lack or illegality of the summons is challenged in a civil trial, making use of the applicable legislation and jurisprudence.
TAX PROCEDURAL LAW	LDE4041	At the end of the course, the student will draw up a comparative table in which the procedural stages and formal requirements of the appeal for revocation, the contentious administrative trial and the amparo in tax matters are identified and distinguished.
ALTERNATIVE MEANS OF DISPUTE RESOLUTION	LDE4031	At the end of the course, the student will explain the main characteristics and advantages of mediation, conciliation and arbitration in the face of the jurisdictional process.
PROFESSIONAL PRACTICE I	LDE4011	At the end of the course, the student will put into practice the knowledge acquired to diagnose, plan, evaluate and take part in the solution of problems and situations of their profession, establishing a link between theory and practice, between the university and society, between their aspirations and the needs of their environment.
SELECT TOPICS II	TDE4021	At the end of the course, the student will relate the knowledge acquired on current issues in the various branches of law and apply them in the solution of social sciences problems.
SELECT TOPICS III	TDE4031	At the end of the course, the student will relate the knowledge acquired on current issues in the various branches of law and apply them in the solution of social sciences problems.
INTERNATIONAL COMMERCIAL ARBITRATION	LDE4101	At the end of the course, the student will resolve conflicts in matters of international trade through arbitration and through the application of domestic legislation of comparative laws and international treaties on the subject.
LEGAL ARGUMENTATION AND ORAL LITIGATION	LDE4091	At the end of the course, the student will present cases orally, apply appropriate and consistent interrogation techniques in oral trials and develop a legal discourse that

		encompasses the exordium, proposition, composition and conclusions using the appropriate terminology.
CONSULTING AND TAX PLANNING	LDE4071	At the end of the course, the student will propose alternatives for the taxpayer to carry out their activities or conclude convenient legal business and that generate the lowest tax burden to obtain the greatest possible economic benefit without contrary to the applicable legal provisions.
INTERNATIONAL CONTRACTS	LDE4061	At the end of the course, the student will identify, describe and apply the UNIDROIT principles of greater relevance in international contracting, through the solution of practical cases.
LAW PHILOSOPHY	LDE4081	At the end of the course, the student will separate the essential legal concepts of any normative order from the laws that constitute positive law, applying them both in the research and in the creation of the norm.
PROFESSIONAL PRACTICE II	LDE4051	At the end of the course, the student will put into practice the knowledge acquired to diagnose, plan, evaluate and take part in the solution of problems and situations of their Profession, establishing a link between theory and practice, between the university and society, between their aspirations and the needs of their environment.

LICENCIATURA IN EDUCATIONAL INNOVATIONS

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
EDUCATIONAL ORGANIZATIONS AND PROCESSES	LID1031	At the end of the course, the student will identify, in any type of organization, the basic elements of organizational behavior theory and will relate them to educational teaching and learning processes that could occur in each of the types of organization identified.
INNOVATION PROCESSES	LID1021	At the end of the course, the student will design a complete innovation project for an organization, selecting and following an appropriate methodology and identifying the corresponding theoretical framework.

QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
EDUCATIONAL THEORY	LID1011	At the end of the course, the student will support orally and in writing their philosophical position with regards to education, relying on the knowledge acquired about the different philosophical currents of education, addressed during the semester.
CURRICULUM AND SUPERVISION IN EDUCATIONAL ORGANIZATIONS	LID1041	At the end of the course, the student will carry out the first part of a project to know and strengthen the fundamentals of a "Curriculum" and will apply the principles of modern supervision when observing teachersStudent interaction in a classroom.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
DESCRIPTIVE STATISTICS	MAT2031	At the end of the course, the student will handle the basic concepts of mathematical notation used in the descriptive analysis of the data, know the relationship of statistics with the scientific method to understand and apply the descriptive statistical methods in the analysis of social issues.
HISTORY OF EDUCATION IN MEXICO	LID1061	At the end of the course, the student will review current events of educational organizations with their historical background. Identify possible consequences of certain current education conditions, based on similar conditions in the history of Mexican education.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
EDUCATIONAL PROCESSES IN THE CLASSROOM	LID1051	At the end of the course, the student will analyze the educational processes in the classroom, identifying problematic situations that negatively affect learning. They will design innovative solutions by selecting and following appropriate methodologies and identifying the corresponding theoretical framework.
CHILDHOOD AND ADOLESCENT PSYCHOLOGY	PSI1021	At the end of the course the student will recognize the different facets of the conception, birth, childhood and adolescence, in addition to the biological, psychological and sociocultural changes that occur within the person

		during their development in childhood and adolescence to achieve a comprehensive knowledge of human child development.
INNOVATION IN THE CLASSROOM	**LID2041**	At the end of the course, the student will put into practice and evaluate the solutions proposed in the course Educational Processes in the Classroom, creating a final report that identifies and discusses problems, proposed solutions, theoretical framework, selected methodologies, and the results achieved.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE RESEARCH METHODS	**LID2011**	At the end of the course, the student will carry out, at a basic level, projects, application and reports under the quantitative research model.
ADMINISTRATIVE PROCESSES IN EDUCATIONAL ORGANIZATIONS	**LID2031**	At the end of the course, the student will carry out the second part of a project in which, by applying organizational behavior principles, they will analyze and strengthen the existing non-financial administrative processes in operation.
COGNITIVE PROCESSES	**LID2021**	At the end of the course, the student will create meaningful and authentic solutions to design problems, based on the understanding of the cognitive processes carried out by various audiences in the interpretation and appropriation of visual messages.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ANALYSIS OF EDUCATIONAL NEEDS IN THE COMPANY	**LID2061**	At the end of the course, the student will identify educational needs, training and human resources development in an organization, applying the appropriate methodologies to ensure accuracy and objectivity in the results obtained.
LEARNING WITH TECHNOLOGY	**LID2081**	At the end of the course, the student will create, apply and evaluate a complete learning experience that integrates information and communication technologies as part of the process of building the student's knowledge and not as transmitters of information, identifying characteristics of the students, learning objectives, teaching and evaluation methods and the corresponding theoretical framework.

ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
LABOR LAW	LDE1031	At the end of the course, the student will apply in specific cases the rights and obligations that workers and employers have reciprocally; analyze the negotiation of a strike from the worker or employer perspective as well as identify and resolve legal problems related to the interpretation and application of the rules that regulate worker-employer relations with support in doctrine and jurisprudence.
ORGANIZATIONAL DEVELOPMENT: MICRO AND MACRO INTERVENTION	LID2071	At the end of the course, the student will carry out the first part of a project to know what the components of organizational development are and how they work so that, when selecting between different models, they can use them in the organization of their choice, through a diagnostic intervention that identifies a problem, to propose a solution.
PHENOMENOLOGICAL PARADIGM	LID2051	At the end of the course, the student will use the phenomenological paradigm to analyze their own educational experience, in addition to being able to interpret results of educational research based on this approach. They will recognize the differences and implications of its use in the practical activities of the educational field and become familiar with its theoretical assumptions and methodological principles.
MEXICO'S SOCIAL PROBLEMS	LRM1011	At the end of the course, the student will analyze the bases and dimensions of the different types of social problems facing Mexico, mastering the essential theoretical frameworks on poverty and social inequality and analyzing the causes of violence and conflict, both political and domestic, as well as the strategies and political actions used to face the different types of problems.
ORGANIZATIONAL DEVELOPMENT: SKILLS AND INTERVENTION STRATEGIES	LID3041	At the end of the course, the student will carry out the second part of an intervention project that will allow them to know and identify organizational development tools and concepts to develop a strategic problem-solving plan.
DESIGN OF TRAINING PLANS AND PROGRAMS	LID3031	At the end of the course, the student will design training plans that meet development and/or training needs in an organization. Design specific training programs that are feasible in specific contexts and for specific populations in an organization.

ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
INTEGRATION OF ICT INTO ORGANIZATIONS	LID3051	At the end of the course, the student will, through the knowledge and analysis of a cycle of change, know the impact and repercussions that for the administration, behavior and culture of an organization has the decision to incorporate ICT as a strategic part of the formation of individuals and groups.
INTERCULTURALITY AND HUMAN RIGHTS	LID3021	At the end of the course, the student will argue about the need for interculturality and human rights as transverse axes of education, to build a tolerant, supportive and just global society. Identify human rights violations and discriminatory practices in everyday life and select educational solution strategies. Respect cultural, social, ethnic, generic, etc. differences by self-awareness of their prejudices and personal positions.
QUALITATIVE RESEARCH METHODS	LID3011	At the end of the course, the student will carry out a complete educational research project with a qualitative approach, identifying a social phenomenon of interest, selecting the appropriate qualitative methods and techniques, interpreting the results and writing a final research report.
CONTEMPORARY LATIN AMERICA	LRI4091	At the end of the course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary dilemmas.
LOCAL DEVELOPMENT AND CIVIL SOCIETY	LID3071	At the end of the course, the student will assess whether a given program meets the characteristics of local development, defined by civil society, using criteria such as: territory, agency of community actors, empowerment of local resources, organizational and identity strengthening, cultural and environmental sustainability. In addition, they will assess the relevance of educational methodologies to strengthen local development, which are aimed at community groups, producers, women, youth and children.
INTERNATIONAL COMPARATIVE EDUCATION	LID3091	At the end of the course, the student will identify the different approaches that are used in comparative education studies and to analyze studies carried out on

		some of the recent topics that are on the world agenda regarding this field, given the current conditions of society and education.
EDUCATIONAL GAMES AND SIMULATIONS	**LID3061**	At the end of the course, the student will produce and evaluate a game or a complete educational simulation, using and applying software, graphic design and pedagogical resources, identifying characteristics of the students, learning objectives, teaching and evaluation methods and the corresponding theoretical framework.
EMANCIPATORY THINKING IN NGOs	**LID3081**	At the end of the course, the student will recognize the existence of another alternative paradigm of thought (arising from non-governmental organizations) that pursues an ethical-social change. They will contrast the differences between neoliberal thinking and the emancipatory thinking of NGOs, in relation to: the concept of development and human being, education and knowledge, the role of citizens and communities in decisions, ethical-ecological principles, production, consumption and work. They will measure the impact and dissemination of NGO thinking in the universal field of social sciences.
DEVELOPMENT THEORIES AND PRACTICES	**LPT3021**	At the end of the course, the student will analyze development processes and practices and their sustainability. They will reflect and criticize the different theoretical positions that development studies have contributed to study the problem of development.
EDUCATION FOR CRITICAL MEDIA RECEPTION	**LID4031**	At the end of the course, the student will develop their skills of critical reception before the media, being able to use these skills in analyzing television and digital media messages. In addition, they will design strategies to promote critical reception before the media in different population groups and educational settings, both formal and non-formal.
TRAINING OF COMMUNITY PROMOTERS	**LID4041**	At the end of the course, the student will detect the strengths and weaknesses of promoter training programs, according to criteria of social and cultural relevance, and principles of adult learning. They will use taxonomies to characterize the desirable profile of the community promoter and recognize their skills in specific cases of promoters working in the field.

LEADERSHIP FOR THE CONSTRUCTION OF KNOWLEDGE	**LID4021**	At the end of the course, the student will identify the different leadership styles to weigh the consequences of the application of the five factors of knowledge construction. Also, they will analyze the influence that the leader has on the development of the organization by interacting and living with the different actors of the organization understanding the repercussions that this can have on the effectiveness of organizational activities and in general of the human behavior of the people with whom they live in the organization.
COMMUNITY PARTICIPATION AND SOLIDARITY NETWORKS	**LID4051**	At the end of the course, the student will properly apply principles and procedures of participatory methodologies to a case. They will base the nature and purposes of participatory methodologies within the framework of adult education and popular education, and recognize the importance of community social capital in the creation and operation of solidarity networks, offering examples of real organizations.
PROFESSIONAL PRACTICE I	**LID4011**	At the end of the course, the student will apply and relate the learning developed throughout the program, performing professional practices in any of its areas.
SELECT TOPICS I	**TID4011**	At the end of the course, the student will analyze the current topics of the field, selected to keep the student updated on educational innovation topics. Given the nature of the course, the topic to be discussed will be updated every six months.
INTERNATIONAL AGENCIES AND EDUCATION	**LID4091**	At the end of the course, the student will analyze and judge the intergovernmental pacts and agreements promoted by UNESCO and other inter-American organizations on quality education. They will identify the educational components of the platforms for international action in multiple sectors, such as: children, environment, water and sanitation, transparency and governance, housing, migration, human rights, health, women, indigenous people, etc.
TRAINING STRATEGIES IN SOCIAL PROGRAMS	**LID4081**	At the end of the course, the student will identify the educational and training strategies of government social programs and propose changes that respond to reality, from a self-managing and critical perspective. In addition, they will apply f pedagogical and methodological analysis to the social programs of the government aimed at the broad population.

PROFESSIONAL PRACTICE II	**LID4061**	At the end of the course, the student will apply and relate the learning developed throughout the program, performing professional practices in any of its areas. They will reflect on their action, the work done, the scope achieved, and the problems encountered.
GOVERNMENT SOCIAL PROGRAMS	**LID4071**	At the end of the course, the student will demonstrate the explicit or implicit educational dimension of the social programs of various secretaries of state. They will debate the approaches to evaluate social programs, and characterize the educational approach and the paradigm of development of specific governmental social programs.
SELECT TOPICS II	**TID4021**	At the end of the course, the student will analyze the current topics of the field, selected to keep the student updated on educational innovation topics. Given the nature of the course, the topic to be discussed will be updated every six months.
SELECT TOPICS III	**TID4031**	At the end of the course, the student will analyze the current topics of the field, selected to keep the student updated on educational innovation topics. Given the nature of the course, the topic to be discussed will be updated every six months.

LICENCIATURA IN CLINICAL PSYCHOLOGY

ENGLISH I	**ESP0011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
FUNDAMENTALS OF BIOLOGY	**LBI1011**	At the end of the course, the student will recognize the general principles that determine, define and characterize living beings, integrating knowledge about diversity and emerging properties of life in the physicochemical and evolutionary context.
INTRODUCTION TO PSYCHOLOGY	**PSI1011**	At the end of the course the student will be able to identify the relevant topics dealt with by psychological science and the methods used by it.
INTRODUCTION TO THE HUMANITIES	**LHE1011**	At the end of the course, the student will understand the historical conformation of the humanities field and will explain its main transformations and crises.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
GENERAL LINGUISTICS	LAC1031	At the end of the course, the student will master the general linguistic bases necessary for a basic understanding of the importance of this field within anthropology and to master the interrelationship of linguistics with the other branches of this discipline.
MOTIVATION AND EMOTION	PSI1031	At the end of the course the student will identify the main theories about motivation and emotions and the main intrinsic and extrinsic motivations that govern behavior. They will also analyze various alterations in motivation and their repercussions on health, respecting the basic rules that should govern the behavior of professionals who study and treat patients with psychological disorders related to the various motivational and emotional alterations.
COGNITIVE PSYCHOLOGY	PSI1041	At the end of the course the student will use the appropriate perceptual methodology to test hypotheses about senso-perceptual and attentional processing. In the same way, they will use computer programs and appropriate methodology to test hypotheses about higher cognitive processes, always with adherence to the ethical norms that govern psychological work.
CHILDHOOD AND ADOLESCENCT PSYCHOLOGY	PSI1021	At the end of the course the student will recognize the different facets of conception, birth, childhood and adolescence of the human being, in addition to the biological, psychological and sociocultural changes that occur within the person during their development in childhood and adolescence to achieve a comprehensive knowledge of human child development.
PERSONALITY THEORIES	PSI1051	At the end of the course the student will be able to define what is personality and what is a theory of personality; identify the six domains that address the study of personality; recognize the basic constructs and postulates

		of each domain as well as the authors who developed them; identify the investigations and applications of each domain.
DESCRIPTIVE STATISTICS	MAT2031	At the end of the course, the student will handle the basic concepts of mathematical notation used in the descriptive analysis of the data, know the relationship of statistics with the scientific method to understand and apply the descriptive statistical methods in the analysis of social issues.
NEUROSCIENCE LAB	PSI2031	At the end of the course the student will be able to use a vibratome, a microscope with lucid camera and stereotaxic equipment, to make cuts and stains with the Golgi and Nissl methods, their reproduction, extracting and preserving nervous tissue, as well as managing and interpreting stereotactic atlases. They will write a scientific report that reflects the use of electroencephalographic, electrophysiological and biological feedback material and equipment to test psychophysiology hypotheses.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
FUNCTIONAL ORGANIZATION OF THE NERVOUS SYSTEM	PSI2021	At the end of the course the student will use their knowledge of the main structures of the nervous system. These will allow you to understand the functioning of nervous system cells and the underlying processes of neuronal communication. And it will respect the basic rules that must govern the conduct of professionals who study the nervous system of animals and man in accordance with the highest ethical principles.
ADULTHOOD AND OLD AGE PSYCHOLOGY	PSI2011	At the end of the course the student will know the psychological theories of the development of adulthood and old age, including the biological, psychological and socio-cultural factors that intervene in the human development of this stage, which will enable them to develop psychological intervention projects in this social sector, with an ethical and socially responsible approach.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.

LEARNING AND MEMORY	**PSI2071**	At the end of the course the student will be able to describe the main theories and processes that explain learning and memory. They will be able to identify the main variables that modify and optimize learning and memory.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
INFERENTIAL STATISTICS	**MAT2041**	At the end of the course, the student will use the tools of inferential statistics and apply parametric and nonparametric tests in the systematic analysis of data investigated in the social sciences
PHYSIOLOGY OF BEHAVIOR	**PSI2061**	At the end of the course the student will describe the indispensable knowledge to understand the way in which the activity of the nervous system and the function of the endocrine system are related to the behavior of human beings. They will recognize a global view of the structure and function of the main endocrine glands and the interactions of these components of the endocrine system.
LEARNING AND MEMORY LAB	**PSI2081**	At the end of the course the student will be able to perform laboratory experiments to evaluate learning and memory processes, and will be able to describe, control and predict the behavior of organisms.
EDUCATIONAL PSYCHOLOGY	**PSI2051**	At the end of the course the student will describe the object and content of educational psychology, to recognize the characteristics of the teaching-learning process, the theories that support it and the key elements that intervene in the educational process in the multiple institutional contexts in which it takes place (school, family, work, media, among others), through the development of reflective and critical thinking exercised in the practical application of the knowledge acquired.
INTERVIEW THEORY AND TECHNIQUES	**PSI2041**	At the end of the course the student will be able to define, differentiate and recognize the different types of psychological interviews and their characteristics, and have basic skills to apply them.
DRUGS AND BEHAVIOR	**PSI3031**	At the end of the course the student will identify the fundamental concepts about the properties and effects of chemicals that affect human behavior and describe the basic knowledge about the effects of psychotropic drugs and their action mechanisms. They will use appropriate

		conceptual tools to detect, evaluate and solve problems related to drug use and abuse by humans. They will identify the pharmacological properties of drugs that affect the function of the nervous system, as a tool to deepen the knowledge of its function.
ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
SOCIAL PSYCHOLOGY	**PSI3021**	At the end of the course the student will be able to explain the nature of psychosocial phenomena and the role played by the individual in social relations.
PSYCHOMETRY	**PSI3041**	At the end of the course the student will be able to analyze and build the conventional psychological tests.
PSYCHOPATHOLOGY I	**PSI3011**	At the end of the course the student will receive basic knowledge about the etiology, classification, clinical characteristics and treatment of the most common emotional and behavioral disorders, emphasizing those disorders in which the psychologist intervenes more directly.
SELECT TOPICS I	**TPA4011**	At the end of the course the student will develop fundamental competencies on relevant psychological topics, including clinical psychology, organizational psychology, social psychology, educational psychology and others, deepening their knowledge in these areas. The topics will vary according to the needs of the students and the human resources available.
SYSTEMATIC BEHAVIOUR ANALYSIS	**SI3051**	At the end of the course the student will be able to understand research problems, perform experimental control, use different research designs.
ASSESSMENT OF INTELLECTUAL APTITUDES AND SKILLS	**PSI3081**	At the end of the course the student will understand the fundamentals of the aptitudes and intellectual abilities tests and will know, administer, qualify and interpret the results of the techniques used.
INTRODUCTION TO PSYCHOTHERAPY	**LPA3011**	At the end of the course the student will know the diversity of practical applications that the clinical approach has as a theoretical discipline and the origins and conditions of its emergence. They will distinguish the effectiveness of different therapeutic approaches.

INTERNSHIPS AND RESEARCH IN EDUCATIONAL PSYCHOLOGY	**PSI3071**	At the end of the course the student will be able to apply the theory learned in educational psychology, collaborating in the design and development of programs of psychoeducational interventions in different social areas and with people with different abilities.
PSYCHOPATHOLOGY II	**PSI3061**	At the end of the course the student will describe the basic knowledge about the etiology, classification, clinical characteristics and treatment of the most common psychotic, neuropsychological, developmental and eating disorders, emphasizing those disorders in which the psychologist intervenes more directly.
DEVELOPMENT DISORDERS	**LPA3021**	At the end of the course the student will be able to identify the etiology, classification, clinical characteristics and treatment of the most common developmental disorders and disabilities. Likewise, the student will be able to evaluate the ethical situations involved in professional practice.
PERSONALITY ASSESSMENT	**PSI4011**	At the end of the course the student will identify the fundamentals of psychometric evaluation administering, knowing, qualifying and interpreting its results and appreciating its scope of application, the ethical principles that they must consider and the professional and practical limitations.
PSYCHOLOGY AND GENDER	**LPA4011**	At the end of the course the student will know the differences between the genders considering physical and mental health. They will also learn about the agencies and institutions that provide support for the well-being of women and the family.
COGNITIVE-BEHAVIORAL PSYCHOTHERAPY	**LPA4031**	At the end of the course the student will be able to describe and know the different techniques of cognitive-behavioral intervention most frequently used to modify behavior. They will also appreciate the scope, the ethical aspects, and the professional and practical limitations.
EXISTENTIAL-HUMANISTIC PSYCHOTHERAPY	**LPA4041**	At the end of the course the student will know the problems posed by human existence, identify the main constructs and concepts of the humanist-existential psychotherapy theory and technique, and recognize the main exponents of these approaches as well as their main contributions.
PSYCHODYNAMIC PSYCHOTHERAPY	**LPA4021**	At the end of the course the student will apply Freud's psychoanalytic theory and technique and the current state of the psychoanalytic movement.

SELECT TOPICS II	TPA4021	At the end of the course the student will develop fundamental competencies on relevant psychological topics, including clinical psychology, organizational psychology, social psychology, educational psychology and others, deepening their knowledge in these areas. The topics will vary according to the needs of the students and the human resources available.
IDENTITY, PARTNERS AND FAMILY	LPA4051	At the end of the course the student will be able to evaluate how a family functions. They will recognize the basic elements to have an effective relationship.
NEUROPSYCHOLOGY	PSI4031	At the end of the course the student will be able to recognize the brain organization of different psychological processes and their disorders and will be able to make diagnoses and design interventions in people with different clinical pathologies that occur.
PSYCHOLOGICAL EVALUATION PRACTICES AND RESEARCH	PSI4021	At the end of the course the student will be able to administer, qualify and interpret with the use of software the following psychometric tests: Kostig, 16 PH, Moss, Terman, Cleaver. They will also use the information from such tests for the diagnostic evaluation of individuals and to integrate psychological evaluation reports.
CLINICAL PSYCHOLOGY PRACTICES AND RESEARCH	LPA4071	At the end of the course the student will apply the theoretical knowledge related to the diagnostic methods, differentiation of behavioral disorders and intervention techniques for their solution. They will detect, evaluate and intervene in an ethical, critical, balanced and creative way in the solution of the problems of individual and social behavior. They will also identify the scope of application and their professional and practical limitations.
AGGRESSION AND VIOLENCE PSYCHOLOGY	LPA4061	At the end of the course the student will know the main theories about aggression and violence and their causes and repercussions. They will distinguish the main biological, family, social and cultural factors that are related to aggression and violence, and be able to analyze various alterations in the physical and mental health of people that are the result of aggressive and violent behaviors.
SELECT TOPICS III	TPA4031	At the end of the course the student will develop fundamental competencies on relevant psychological topics, including clinical psychology, organizational psychology, social psychology, educational psychology and others, deepening their knowledge in these areas. The

		topics will vary according to the needs of the students and the human resources available.

LICENCIATURA IN ORGANIZATIONAL PSYCHOLOGY

ENGLISH I	**ESP0011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
FUNDAMENTALS OF BIOLOGY	**LBI1011**	At the end of the course, the student will recognize the general principles that determine, define and characterize living beings, integrating knowledge about diversity and emerging properties of life in the physicochemical and evolutionary context.
INTRODUCTION TO PSYCHOLOGY	**PSI1011**	At the end of the course the student will be able to identify the relevant topics dealt with by psychological science and the methods used.
INTRODUCTION TO THE HUMANITIES	**LHE1011**	At the end of the course, the student will understand the historical makeup of humanities and will explain its main transformations and crises.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
SPANISH II	**ESP0021**	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	**LEX0121**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

GENERAL LINGUISTICS	LAC1031	At the end of the course, the student will master the general linguistic bases necessary for a basic understanding of the importance of this field within anthropology and to master the interrelationship of linguistics with the other branches of this discipline.
MOTIVATION AND EMOTION	PSI1031	At the end of the course the student will identify the main theories about motivation and emotions and the main intrinsic and extrinsic motivations that govern behavior. It will also be able to analyze various alterations in motivation and their repercussions on health, recognizing respect for the basic rules that should govern the behavior of professionals who study and treat patients with psychological disorders related to the various motivational and emotional alterations.
COGNITIVE PSYCHOLOGY	PSI1041	At the end of the course the student will use the appropriate perceptual methodology to test hypotheses about senso-perceptual and attentional processing. In the same way, it will be able to use computer platforms and the appropriate methodology to test hypotheses about higher cognitive processes, always with adherence to the ethical norms that govern the psychological work.
CHILDHOOD AND ADOLESCENCT PSYCHOLOGY	PSI1021	At the end of the course the student will recognize the different facets of conception, birth, childhood and adolescence of the human being, in addition to the biological, psychological and sociocultural changes that occur within the person during their development in childhood and adolescence to achieve a comprehensive knowledge of human child development.
PERSONALITY THEORIES	PSI1051	At the end of the course the student will be able to define personality and what is a theory of personality; identify the six domains that address the study of personality; recognize the basic constructs of each domain as well as the authors who developed them; identify the investigations and applications of each domain.
DESCRIPTIVE STATISTICS	MAT2031	At the end of the course, the student will handle the basic concepts of mathematical notation used in the descriptive analysis of the data, know the relationship of statistics with the scientific method to understand and apply the descriptive statistical methods in the analysis of social issues.

NEUROSCIENCE LAB	PSI2031	At the end of the course the student will be able to use a vibratome, a microscope with lucid camera and stereotaxic equipment, to make cuts and stains with the Golgi and Nissl methods, their reproduction, extracting and preserving nervous tissue, as well as managing and interpreting stereotactic atlases. They will write a scientific report that reflects the use of electroencephalographic, electrophysiological and biological feedback material and equipment to test psychophysiology hypotheses.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
FUNCTIONAL ORGANIZATION OF THE NERVOUS SYSTEM	PSI2021	At the end of the course the student will use their knowledge of the main structures of the nervous system. These will allow you to understand the functioning of nervous system cells and the underlying processes of neuronal communication. And it will respect the basic rules that must govern the conduct of professionals who study the nervous system of animals and man in accordance with the highest ethical principles.
ADULTHOOD AND OLD AGE PSYCHOLOGY	PSI2011	At the end of the course the student will know the psychological theories of the development of adulthood and old age, including the biological, psychological and socio-cultural factors that intervene in the human development of this stage, which will enable them to develop psychological intervention projects in this social sector, with an ethical and socially responsible approach.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
LEARNING AND MEMORY	PSI2071	At the end of the course the student will be able to describe the main theories and processes that explain learning and memory. They will be able to identify the main variables that modify and optimize learning and memory.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.

INFERENTIAL STATISTICS	MAT2041	At the end of the course, the student will use the tools of inferential statistics and apply parametric and nonparametric tests in the systematic analysis of data investigated in the social sciences
PHYSIOLOGY OF BEHAVIOR	PSI2061	At the end of the course the student will describe the indispensable knowledge to understand the way in which the activity of the nervous system and the function of the endocrine system are related to the behavior of human beings. They will recognize a global view of the structure and function of the main endocrine glands and the interactions of these components of the endocrine system.
LEARNING AND MEMORY LAB	PSI2081	At the end of the course the student will be able to perform laboratory experiments to evaluate learning and memory processes, and will be able to describe, control and predict the behavior of organisms.
EDUCATIONAL PSYCHOLOGY	PSI2051	At the end of the course the student will describe the object and content of educational psychology, to recognize the characteristics of the teaching-learning process, the theories that support it and the key elements that intervene in the educational process in the multiple institutional contexts in which it takes place (school, family, work, media, among others), through the development of reflective and critical thinking exercised in the practical application of the knowledge acquired.
INTERVIEW THEORY AND TECHNIQUES	PSI2041	At the end of the course the student will be able to define, differentiate and recognize the different types of psychological interviews and their characteristics, and have basic skills to apply them
DRUGS AND BEHAVIOR	PSI3031	At the end of the course the student will identify the fundamental concepts about the properties and effects of chemicals that affect human behavior and describe the basic knowledge about the effects of psychotropic drugs and their action mechanisms. They will use appropriate conceptual tools to detect, evaluate and solve problems related to drug use and abuse by humans. They will identify the pharmacological properties of drugs that affect the function of the nervous system, as a tool to deepen the knowledge of its function.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings

		and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
SOCIAL PSYCHOLOGY	PSI3021	At the end of the course the student will be able to explain the nature of psychosocial phenomena and the role played by the individual in social relations.
PSYCHOMETRY	PSI3041	At the end of the course the student will be able to analyze and build the conventional psychological tests.
PSYCHOPATHOLOGY I	PSI3011	At the end of the course the student will identify the basic knowledge about the etiology, classification, clinical characteristics and treatment of the most common emotional and behavioral disorders, emphasizing those disorders in which the psychologist intervenes more directly.
SELECT TOPICS I	TPO4011	At the end of the course the student will develop fundamental competencies on relevant psychological topics, including clinical psychology, organizational psychology, social psychology, educational psychology and others, deepening their knowledge in these areas. The topics will vary according to the needs of the students and the human resources available.
SYSTEMATIC BEHAVIOR ANALYSIS	PSI3051	At the end of the course the student will be able to research problems, perform experimental control, and use different research designs.
ASSESSMENT OF INTELLECTUAL APTITUDES AND SKILLS	PSI3081	At the end of the course the student will understand the fundamentals of the tests of aptitudes and intellectual abilities and will know, administer, qualify and interpret the results of the techniques used in these tests.
LEADERSHIP AND DECISION-MAKING	LPO3021	At the end of the course the student will identify the decision-making techniques, the characteristics that define a leader, the alternatives to exercise leadership properly and the manifestation of these skills in organizations, as well as their importance today.
INTERNSHIPS AND RESEARCH IN EDUCATIONAL PSYCHOLOGY	PSI3071	At the end of the course the student will be able to apply the theory learned in educational psychology, collaborating in the design and development of programs of psychoeducational interventions in different social areas and with people with different abilities.
CONSUMER PSYCHOLOGY	LPO3011	At the end of the course the student will formulate criteria to discuss, analyze and apply marketing principles, analyzing opportunities, the requirements to determine products,

		prices, distribution, promotion and environment, and make strategic decisions in the use and production of goods.
PSYCHOPATHOLOGY II	PSI3061	At the end of the course the student will describe the basic knowledge about the etiology, classification, clinical characteristics and treatment of the most common psychotic, neuropsychological, developmental and eating disorders, emphasizing those disorders in which the psychologist intervenes directly.
LABOR LAW	LDE1031	At the end of the course, the student will apply in specific cases the rights and obligations that workers and employers have; analyze the negotiation of a strike from the worker or employer perspective as well as identify and resolve legal problems related to the interpretation and application of the rules that regulate worker-employer relations with support in doctrine and jurisprudence.
ORGANIZATIONAL DEVELOPMENT: MICRO AND MACRO INTERVENTION	LID2071	At the end of the course, the student will carry out the first part of a project to know what the components of organizational development are and how they work so that, when selecting between different models, they can use them in the organization of their choice, through a diagnostic intervention that identifies a problem, to propose a solution.
PERSONALITY ASSESSMENT	PSI4011	At the end of the course the student will identify the fundamentals of the psychometric personality evaluation, knowing, qualifying and interpreting its results to appreciate the scope of its application, the ethical principles that it must consider and the professional and practical limitations.
INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY	LPO4011	At the end of the course the student will know and manage the bases and techniques of the processes of selection, evaluation and training of personnel in industrial psychology, as well as have the knowledge required to be able to describe, discuss and apply the principles of psychology in labor organizations to humanize work and improve the quality of working life.
PSYCHOLOGY AND STAFF DEVELOPMENT	LPO4021	At the end of the course the student will know, manage and apply the principles, techniques and methodologies that base, sponsor and control the full development of the person within any work organization.
SELECT TOPICS II	TPO4021	At the end of the course the student will develop fundamental competencies on relevant psychological topics, including clinical psychology, organizational psychology, social psychology, educational psychology and others, deepening their knowledge in these areas. The topics will

		vary according to the needs of the students and the human resources available.
GROUP ADVICE	LPO4031	At the end of the course the student will have knowledge to understand the functioning of small groups and will acquire group experiences through group dynamics developed in class.
ORGANIZATIONAL DEVELOPMENT: SKILLS AND INTERVENTION STRATEGIES	LID3041	At the end of the course, the student will carry out the second part of an intervention project that will allow him to know and identify the tools and concepts of organizational development and will develop a strategic problem-solving plan where they design and apply the most relevant tools.
NEUROPSYCHOLOGY	PSI4031	At the end of the course the student will be able to recognize the brain organization of different psychological processes and their disorders and will be able to diagnose and design interventions in people with different clinical pathologies.
PRACTICES AND RESEARCH IN PSYCHOLOGICAL EVALUATION	PSI4021	At the end of the course the student will be able to administer, qualify and interpret with the use of software the following psychometric tests: Kostig, 16 PH, Moss, Terman, Cleaver. They will also use the information from these tests to diagnose individuals and to integrate psychological evaluation reports, using computer software.
PRACTICES AND RESEARCH IN SOCIAL AND ORGANIZATIONAL PSYCHOLOGY	LPO4041	At the end of the course the student will apply the knowledge acquired in previous subjects such as Social Psychology and Industrial/Organizational Psychology, putting them into supervised practice in social and organizational areas.
SELECT TOPICS III	TPO4031	At the end of the course the student will develop fundamental competencies on relevant psychological topics, including clinical psychology, organizational psychology, social psychology, educational psychology and others, deepening their knowledge in these areas. The topics will vary according to the needs of the students and the human resources available.

LICENCIATURA IN INTERNATIONAL RELATIONS

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.

POLITICAL PHILOSOPHY	**LRI1011**	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of political philosophy from a theoretical perspective; 2) the relevance of the main ideas of Western philosophical thought; (3) the relationship between philosophical ideas of a political nature and the exercise of politics; and 4) the relationship between ideas, institutions, individuals and interests in the formulation of public policies by the State.
INTRODUCTION TO POLITICAL SCIENCE	**LPT1011 I**	At the end of the course, the student will: 1) understand and apply some of the fundamental concepts of political science; and 2) distinguish the main contemporary theoretical currents, as well as their political implications, from this discipline.
INTRODUCTION TO INTERNATIONAL RELATIONS	**LRI1021**	At the end of the course, the student will: 1) understand and apply concepts important to the analysis of international relations; and 2) assess the relevance of the study of international relations.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
SPANISH II	**ESP0021**	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
DESCRIPTIVE STATISTICS	**MAT2031**	At the end of the course, the student will handle the basic concepts of mathematical notation used in the descriptive analysis of the data, know the relationship of statistics with the scientific method to understand and apply the descriptive statistical methods in the analysis of social issues.
HISTORY OF INTERNATIONAL RELATIONS	**LRI1041**	At the end of the course, the student will: 1) analyze the development of the international system from its origins until 1914; and (2) to evaluate different interpretations of the development of the international system from its origins to 1914.
FOREIGN LANGUAGE II	**LEX0121**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

RESEARCH METHODS AND TECHNIQUES	**LRI1061**	At the end of the course, the student will learn the most important theories of research methods and techniques. It can carry out research work independently.
CONTEMPORARY MEXICAN POLITICS	**LRI1031**	At the end of the course, the student will: 1) analyze the development of the Mexican political system from the Constitution of 1917 to the year in which the course takes place; and 2) construct different periodizations of Mexican politics at the time analyzed, presenting in a critical way the criteria on which they are based.
CONTEMPORARY POLITICAL THEORIES	**LRI1051**	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of modern political thought; 2) the practical relevance of the main ideologies of Western philosophical thought; (3) the relationship between political ideology and the exercise of politics; and 4) the importance of ideologies in the political evolution of humanity in time and space.
PUBLIC INTERNATIONAL LAW	**LDE3061**	At the end of the course, the student will solve problems typical of public international law, through the interpretation and application of international treaties, and with support in custom, jurisprudence and general principles of international law.
CONTEMPORARY WORLD HISTORY	**LRI2011**	At the end of the course, the student will: 1) analyze the development of the international system from 1914 to the present moment; and (2) to assess different interpretations of the development of the international system from 1914 to the present time.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
COMPARATIVE POLITICS	**LRI2021**	At the end of the course, the student will understand the theoretical foundations of comparativism and the forms of parliamentary and republican government that the countries of the world have sought to imitate. Analyzes and compares selected examples of forms of government for all continents.
PRINCIPLES OF ECONOMICS	**LEC1011**	At the end of the course, the student will understand the essential aspects of the most relevant economic problems and to use the most basic techniques of Economic analysis to propose solutions.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their

		processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
CONSULAR AND DIPLOMATIC LAW AND PRACTICE	LRI2031	At the end of the course, the student will understand the legal environment surrounding the exercise of diplomacy in its various manifestations. They will understand the content of the Vienna Conventions on Diplomatic and Consular Relations its rights and obligations. They will learn about Mexico's actions in consular protection.
LATIN AMERICAN STUDIES	LRI2061	At the end of the course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary dilemmas.
GEOPOLITICS AND NATURAL RESOURCES	LRI2051	At the end of the course, the student will make geopolitical analysis of the different regions and countries of the world. They will identify the leading geopolitics theorists and use their ideas in their analyses. They will also able to identify the main raw materials of the world today and its projection into the future.
PUBLIC POLICIES	LRI2041	At the end of the course, the student will: 1) understand the concept of public policy and its main stages; 2) critically assess the approach to a public problem, the design of the implementation for its solution, and the characteristics of a policy assessment.
U.S. SOCIETY AND POLITICS	LRI2081	At the end of the course, the student will understand the society, government and politics of the United States.
THEORY OF INTERNATIONAL RELATIONS	LRI2071	At the end of the course, the student will: 1) evaluate different theories about the actions and interactions of various international actors; and (2) apply general propositions that describe and explain different aspects of international relations.
SUB-SAHARAN AFRICA	LRI3021	At the end of the course, the student will understand the causes of African underdevelopment, as well as the problems faced by their current states. They will understand the problems in each of the regions and analyze their causes.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand

		the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
MEXICAN FOREIGN POLICY I	**LRI3011**	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of Mexico's foreign policy towards North America; 2) the practical relevance of Mexico's foreign policy in the concert of nations; (3) the relationship between Mexican foreign policy and its Canadian and U.S. counterparts; and 4) the importance of globalization in the political and economic spheres in the foreign policies of Canada, the United States and Mexico.
SELECT TOPICS I	**TRI4011**	At the end of the course, the student will apply the knowledge acquired in their studies, dedicated to dealing in depth with international relations topics.
DEVELOPMENT THEORIES AND PRACTICES	**LPT3021**	At the end of the course, the student will analyze development processes and practices and their sustainability. They will reflect and criticize the different theoretical positions that development studies have contributed to study the problem of development.
EUROPEAN UNION	**LRI3031**	At the end of the course, the student will analyze processes and power dynamics related to the European Union. They will work successfully in a group.
ASIA	**LRI3061**	At the end of the course, the student will analyze the changes that have taken place in that continent, particularly in China, Japan, Korea, Taiwan, India, Sri Lanka and Pakistan. They will examine the problems faced by these countries, such as: Kurils, Senkaku, Spatley and Paracel, and some of the border problems.
GLOBAL POLITICAL ECONOMY	**LRI3041**	At the end of the course, the student will analyze processes and dynamics related to global political economy, as well as work and collaborate successfully in a group.
U.S. FOREIGN POLICY	**LRI3071**	At the end of the course, the student will: 1) analyze the development of U.S. foreign policy from 1776 to the present moment; and 2) evaluate different interpretations of U.S. foreign policy from 1776 to the present day.
MEXICAN FOREIGN POLICY II	**LRI3081**	At the end of the course, the student will know the history of Mexico's foreign policy towards Latin America and the

		rest of the world, highlighting the main historical junctures and contexts.
SECURITY IN THE GLOBAL CONTEXT	**LRI3051**	At the end of the course, the student will: 1) analyze issues related to national, international and human security; and (2) assess different ways to promote human security.
SELECT TOPICS II	**TRI4021**	At the end of the course, the student will apply the knowledge acquired in their studies, dedicated to dealing in depth with international relations topics.
FOREIGN TRADE LAW	**LDE3071**	At the end of the course, the student will solve problems that arise in foreign trade through legal argumentation and using applicable legislation and jurisprudence.
INTERNATIONAL MIGRATION	**LRI4021**	At the end of the course, the student will identify and analyze: 1) the general guidelines for the study of international migration; (2) the theoretical relevance of the study of contemporary international migration; (3) the relationship between international migration flows and the exercise of national and transnational policy; and (4) the importance of international migration flows in the study of global power flows.
INTERNATIONAL NEGOTIATION	**LRI4041**	At the end of the course, the student will: 1) understand and apply strategies and tactics of international negotiation; 2) analyse and evaluate the qualities of a good international negotiator; and 3) analyze and evaluate the impact of different cultural variables on international negotiations.
HUMAN RIGHTS POLICY	**LRI4031**	At the end of the course, the student will reflect and criticize the different theoretical positions that human rights studies have contributed to analyze current problems, they will also influence the creation and implementation of national and international policy on human rights.
PROFESSIONAL PRACTICE I	**LRI4011**	At the end of the course, the student will put into practice the knowledge acquired to evaluate and take part in the solution of problems and situations of their Profession. Establishing a link between theory and practice.
SELECT TOPICS III	**TRI4031**	At the end of the course, the student will apply the knowledge acquired in their studies, dedicated to dealing in depth with international relations topics.
CONTEMPORARY LATIN AMERICA	**LRI4091**	At the end of the course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary dilemmas.

GLOBAL GOVERNANCE	LRI4101	At the end of the course, the student will: 1) analyze different global governance mechanisms that have been designed and implemented; and 2) evaluate existing mechanisms of global governance and propose how to improve them.
MIDDLE EAST AND MAGHREB	LRI4071	At the end of the course, the student will identify the area and its main problems. Understand so-called Islamic fundamentalism and can analyze its ramifications: jihadism and Salafism. The student analyzes the Arab-Israeli conflict and its possible solutions, as well as the democratizing movements in the area.
PROFESSIONAL PRACTICE II	LRI4051	At the end of the course, the student will put into practice the knowledge acquired to evaluate and take part in the solution of problems and situations of their Profession. Establishing a link between theory and practice.
RUSSIA AND ITS SURROUNDINGS	LRI4081	At the end of the course, the student will understand the legal environment surrounding the exercise of diplomacy in its various manifestations, the full content of the Vienna Conventions on Diplomatic and Consular Relations, will know the new Practices in the field of diplomatic immunities and privileges, as well as know the actions of Mexico in the field of consular protection.
SOCIETY AND POLITICS OF CANADA	LRI4061	At the end of the course, the student will analyze political processes and social dynamics in Canada, working successfully in a group.

LICENCIATURA IN MULTICULTURAL RELATIONS

CULTURE AND SOCIETY	LAC1021	At the end of the course, the student will master, identify and argue the fundamental concepts, as well as the data and achievements of ethnological science, and will be able to discern, describe, analyze and compare the great cultural diversity and the similarities that characterize the social life of human communities.
ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO INTERNATIONAL RELATIONS	LRI1021	At the end of the course, the student will: 1) understand and apply concepts important to the analysis of international relations; and 2) assess the relevance of the study of international relations.

FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ADMINISTRATION OVERVIEW	ADM1011	At the end of the course, the student will describe the nature of the administration, its characteristics and its dynamic process, in addition to understanding the essence of the administrative profession and the functional areas in business.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
FINANCIAL ACCOUNTING	LFP1011	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FUNDAMENTALS OF ANTHROPOLOGICAL THOUGHT	LAC1051	At the end of the course, the student will analyze the intellectual history of anthropological thought, from Greco-Roman thinkers to the early emergence of the discipline in the nineteenth century and evaluate the persistence of ancient ideas in modern anthropology.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRINCIPLES OF MICROECONOMICS	ECO1011	At the end of the course, the student will handle the basic elements of economic analysis emphasizing its application to consumer and business decision-making.
MEXICO'S SOCIAL PROBLEMS	LRM1011	At the end of the course, the student will analyze the bases and dimensions of the different types of social problems facing Mexico, master the essential theoretical frameworks on poverty and social inequality and analyze the causes of violence and conflict, both political and domestic, as well as the strategies and political actions used to face the different types of problems.

THEORY OF INTERNATIONAL RELATIONS	**LRI2071**	At the end of the course, the student will: 1) evaluate different theories about the actions and interactions of various international actors; and (2) apply general propositions that describe and explain different aspects of international relations.
CURRENT CURRENTS IN ANTHROPOLOGY	**LAC2021**	At the end of the course, the student will master the history of ideas and socioanthropological thought, to analyze the notions around the relationship between society and nature during the twentieth century and to comment and/or criticize in a coherent and understandable way.
MARKETING FUNDAMENTALS	**LMK1011**	At the end of the course, the student will identify the principles and key elements of marketing (product, price, place and promotion) to develop a market strategy, to create value for customers.
GEOPOLITICS AND NATURAL RESOURCES	**LRI2051**	At the end of the course, the student will make a geopolitical analysis of the different regions and countries of the world. They will identify the leading theorists of geopolitics and use their ideas in their analyses, identifying the main raw materials of the world today and its projection into the future.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRINCIPLES OF MACROECONOMICS	**ECO1021**	At the end of the course, the student will identify, define and use the main variables of the short- and long-term macroeconomic analysis.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
HUMAN BEHAVIOR IN ORGANIZATIONS	**LAD1021**	At the end of the course, the student will develop and promote the understanding of the dynamics of people in organizations, to conduct themselves in an assertive way in their interactions and thus contribute to organizational objectives.

COMMUNICATION AND GLOBALIZATION	LIP3041	At the end of the course, the student will explain in writing the theoretical frameworks through which the development of modern globalization and its impact on communication and the media within political, economic and social contexts are analyzed; apply appropriate concepts and terms through case analysis focused on the processes of globalization and communication, their interrelationship and their impact on a local, regional and global environment.
PUBLIC INTERNATIONAL LAW	LDE3061	At the end of the course, the student will solve problems typical of public international law, through the interpretation and application of international treaties, and with support in custom, jurisprudence and general principles of international law.
PRICING STRATEGY	LMK3051	At the end of the course, the student will identify the strategic role of price in marketing decisions and its relationship with business decisions in the creation of value and competitive advantage. Likewise, the student will integrate the knowledge acquired in areas of knowledge in economics, finance, operations and marketing for the use of approaches and tools for pricing.
WORLD ETHNOLOGY	LAC1041	At the end of the course, the student will conceptually and rationally master the main cultural areas of the world and the fundamental sociocultural traits associated with representative societies of each area and analyze the cultural diversity in the world.
ECONOMIC GEOGRAPHY AND DEVELOPMENT EXPECTATIONS	LNI1021	At the end of this course, the student will be able to identify different globalization processes, as well as the issues related to economic, social and political aspects that developing and emergent economies face.
APPLIED ANTHROPOLOGY	LAC4061	At the end of the course, the student will contrast the different epistemological currents of applied anthropology and identify the possibilities of contribution that from our discipline can be made to the resolution of social problems.
STRATEGIC HUMAN RESOURCES MANAGEMENT	LAD2021	At the end of the course, the student will analyze and apply the most important concepts and functions of the human resources strategic management within organizations and develop skills to solve problems in this area.

ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
ANCIENT MESOAMERICA	LRM3011	At the end of the course, the student will generate a framework of the different paradigms used in the study of the pre-Hispanic past of Mexico, analyze the uses of the pre-Hispanic heritage of his country and evaluate the relationship between the empirical database and the theoretical constructions around the emergence of the complex societies of Mesoamerica and the main processes involved in the emergence of social inequality.
JOURNALISTIC WRITING AND STYLE	LPM2041	At the end of the course, the student will distinguish editorial principles from journalistic activity, correct texts and write notes in journalistic style at a professional level.
SELECT TOPICS I	TRM4011	At the end of the course, the student will apply and relate the knowledge in some subject of anthropology, communication sciences, business or international relations from a current point of view.
INTERCULTURAL ADMINISTRATION	LNI1031	At the end of the course, the student will understand the cultural heterogeneity of the modern world from a polycentric perspective through the acquisition of the basic concepts necessary to identify the main cultural differences between blocks of countries.
CONTEMPORARY LATIN AMERICA	LRI4091	At the end of the course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary dilemmas.
MEDICAL ANTHROPOLOGY	LAC3081	At the end of the course, the student will describe the different theoretical anthropological currents of health and disease, analyze the factors that determine the distribution of well-being within a society and between different societies and discuss the specific cultural and social responses that cause the disease in several societies.
PRE-HISPANIC ART AND ARCHITECTURE	LAQ3061	At the end of the course, the student will identify the different styles in spatial and temporal terms, to generate a specific and detailed vision of the symbolic systems used by different cultures of the pre-Hispanic era in Mesoamerica, including the development of regional

		and international styles, the historical meaning of the traits and the political-religious ideology; to characterize the intellectual history of the study of pre-Hispanic art.
INVESTIGATIVE JOURNALISM	**LPM3041**	At the end of the course, the student will explain in writing the different definitions of investigative journalism, as well as its characteristics to develop an investigative journalism project following the appropriate phases, the most current tools to collect information; as well as analyzing, organizing and drafting the relevant information for the project.
SELECT TOPICS II	**TRM4021**	At the end of the course, the student will apply and relate the knowledge in some subject of anthropology, communication sciences, business or international relations from a current point of view.
ECONOMIC AND POLITICAL ANTHROPOLOGY	**LAC3051**	At the end of the course, the student will master the classical ethnographies of economic and political anthropology and identify and criticize the different theoretical positions that anthropology has developed for the study of the economic and political dimensions of indigenous societies worldwide.
LEGAL ANTHROPOLOGY	**LAC3061**	At the end of this course, the student will identify theories and basic concepts about the study of the legal systems of various societies, analyze the changes in the methodologies and research topics of legal anthropology during the twentieth century and relate these transformations with the changing social and political contexts of ethnographic research.
COMMUNICATION FOR DEVELOPMENT AND SOCIAL CHANGE	**LIP4041**	At the end of the course, the student will diagnose communication and information needs for social development, and design and evaluate communication systems or dissemination strategies to support development and social change in specific topics previously diagnosed.
GLOBAL GOVERNANCE	**LRI4101**	At the end of the course, the student will: 1) analyze different global governance mechanisms that have been designed and implemented; and 2) evaluate existing mechanisms of global governance and propose how to improve them.
PROFESSIONAL PRACTICE I	**LAC4011**	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of anthropology and solve situations of adaptation to a new work environment.

SELECT TOPICS III	TRM4031	At the end of the course, the student will apply and relate the knowledge in some subject of anthropology, communication sciences, business or international relations from a current point of view.
FUNDAMENTAL RIGHTS	LDE1011	At the end of the course, the student will explain in writing the origins, concept, classification and importance of fundamental rights, identify the main international instruments in which they are contained and efficiently manage the mechanisms of jurisdictional and non-jurisdictional protection existing at the national and international levels.
DOCUMENTARY	LPM4011	At the end of the course, the student will analyze different types of documentaries and produce a documentary without dialogue and a short documentary.
CASE STUDY	LAQ4071	At the end of the course, the student will apply the methodology of their research design, analyze and interpret the data obtained and produce a research document.
COMMUNITY PROMOTERS TRAINING	LID4041	At the end of the course, the student will detect the strengths and weaknesses of promoter training programs, according to criteria of social and cultural relevance, and principles of adult learning. Use taxonomies to characterize the desirable profile of the community promoter and recognize their skills in specific cases of promoters working in the field. Master the basic principles for designing promoter training workshops.
INTERNATIONAL NEGOTIATION	LRI4041	At the end of the course, the student will: 1) understand and apply strategies and tactics of international negotiation; 2) analyse and evaluate the qualities of a good international negotiator; and 3) analyze and evaluate the impact of different cultural variables on international negotiations.
PROFESSIONAL PRACTICE II	LAC4051	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of cultural anthropology and to solve situations of adaptation to a new work environment.

LICENCIATURA IN ACTUARIAL SCIENCE

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.

ANALYTIC GEOMETRY	LME1011	At the end of the course, the student will use vectors to calculate lengths and angles and obtain the equations of lines, planes, circumferences and spheres; identify the conics from their equations and the application of translation and rotation of axes; and make coordinate changes between cartesian coordinates and polar coordinates.
INTRODUCTION TO ACTUARIAL SCIENCE	LAT1011	At the end of the course, the student will identify what an Actuary can do in their professional life, some of the areas in which they can work and recognize the usefulness of a tool such as the computer.
INTRODUCTION TO PROGRAMMING	LIS1011	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
MATHEMATICAL ANALYSIS I	LME1031	At the end of the course, the student will understand and explain the theory of continuous functions, differential calculus, the relationship between integration and derivation, logarithm and exponential functions, the approximation of functions by polynomials and sequences and series of numerical and functions, as well as improper integrals.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
DEVELOPMENT OF ACTUARIAL APPLICATIONS I	LAT1021	At the end of the course, the student will design and implement computer applications using the Excel spreadsheet and the Visual Basic for Applications (VBA) programming language.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

PROBABILITY AND STATISTICS	**MAT2061**	At the end of the course, the student will handle the basic concepts of statistics and probability and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.
MATRIX THEORY	**LME1021**	At the end of the course, the student will apply the concepts and properties of the elements defined in Linear Algebra to various geometry, linear programming and differential equations problems.
MATHEMATICAL ANALYSIS II	**LME2011**	At the end of the course, the student will understand and explain the theory of differential calculus of scalar and vector fields, line integrals, multiple integrals and surface integrals.
CALCULUS II	**MAT1071**	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
DEVELOPMENT OF ACTUARIAL APPLICATIONS II	**LAT2021**	At the end of the course, the student will handle the necessary tools for a good design of a database, facilitating the search and management of information through Microsoft Access.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
STOCHASTIC MODELS I	**LAT2041**	At the end of the course, the student will find and apply mathematical models to contingent events to calculate probabilities and expected values of a variable.
THEORY OF INTEREST I	**LAT2031**	At the end of the course, the student will obtain the basic concepts of the value of money over time, to be able to apply them to the resolution of practical and theoretical problems, clearly understanding the deduction of the mathematical expressions that are used to solve these problems.
INSURANCE THEORY	**LAT2011**	At the end of the course, the student will identify the main aspects of life and damage insurance, analyze and prepare the contractual documentation corresponding to what is indicated by the General Law of Institutions and Mutual Insurance Companies in the operation of life and damages.

ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
DEMOGRAPHY	LAT2061	At the end of the course, the student will identify and apply the best-known population models, build population pyramids, superimposed pyramids and know how to interpret them, determine demographic indicators and know how to interpret them, build mortality tables and determine confidence intervals for life expectancy determine fertility rates and indicators, and develop demographic analysis according to all the concepts seen in the course.
ACTUARIAL LIFE INSURANCE MATHEMATICS I	LAT2051	At the end of the course, the student will manage the relationship between the theory of Utility and Life Insurance in the individual branch, to analyze, know and apply the mathematical tools necessary to calculate risk premiums and contingent incomes of individual life insurance.
STOCHASTIC MODELS II	LAT2081	At the end of the course, the student will select and apply mathematical models to contingent events to calculate probabilities and expected values of a random vector.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
THEORY OF INTEREST II	LAT2071	At the end of the course, the student will handle the different types of annuities and analyze different mechanisms to calculate returns of a portfolio, to rate insurance and develop contingent payment plans.
FINANCIAL ACCOUNTING	LFP1011	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.

ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
ACTUARIAL MATHEMATICS OF LIFE INSURANCE II	LAT3011	At the end of the course, the student will manage the relationship between utility theory and life insurance in the group and collective branches, analyze and apply the mathematical tools necessary for the calculation of risk premiums and contingent incomes in the group/collective life insurance.
INFERENCE METHODS I	LAT3041	At the end of the course, the student will apply probability theory to find sample distributions, understand and apply methodologies of point and interval estimation to real problems.
ACTUARIAL MODELING AND CALIBRATION	LAT3031	At the end of the course, the student will provide an understanding of the principles of modeling and their actuarial applications.
PRINCIPLES OF ECONOMICS	LEC1011	At the end of the course, the student will understand the essential aspects of the most relevant economic problems and to use the most basic techniques of Economic analysis to propose solutions.
STOCHASTIC PROCESSES	LAT3021	At the end of the course, the student will understand the most important theorems of stochastic convergence and apply them to statistical inference, applying Markov and Poisson models to real problems, in the actuarial area.
PORTFOLIO MANAGEMENT	LAT3051	At the end of the course, the student will efficiently evaluate and shape investment portfolios by analyzing the risk-return ratio of a financial instrument.
MATHEMATICAL ANALYSIS III	LME2021	At the end of the course, the student will determine whether a collection of sets is sigma-algebra, to propose new sigma algebras, to verify the measurableness of a function with respect to a given sigma-algebra, and determine whether a function is a measure, to plot plots of simple functions, to integrate simple functions and to verify integrability of measurable functions, to handle the applications of Lp spaces in probability.
ACTUARIAL DAMAGE INSURANCE MATHEMATICS	LAT3061	At the end of the course, the student will apply the concepts of Probability and loss estimation for damage insurance, analyzing and applying mathematical tools to

		calculate risk premiums, reserves, pending obligation compliance and ongoing risks.
INFERENCE METHODS II	**LAT3081**	At the end of the course, the student will understand and apply hypothesis testing methodologies and nonparametric statistics tests to real problems.
ADVANCED OPTIMIZATION	**LAT3091**	At the end of the course, the student will apply modern optimization techniques to complex combinatorial problems.
RISK THEORY	**LAT3071**	At the end of the course, the student will develop models for the use of technical reserves in the solvency of insurance institutions, recognizing the different aspects to prevent bankrupcy in insurance institutions.
ACTUARIAL RISK MANAGEMENT	**LAT4031**	At the end of the course, the student will understand the relationship between general administration and risk management, as well as the importance that the latter has in actuarial practice.
REGRESSION ANALYSIS	**LAT4041**	At the end of the course, the student will understand and apply hypothesis testing and nonparametric statistics tests to real problems.
FINANCIAL MARKETS	**LAT4051**	At the end of the course, the student will identify the different types of markets and financial institutions, as well as the securities listed on them.
PROFESSIONAL PRACTICE I	**LAT4011**	At the end of the course, the student will put into practice the knowledge acquired in their studies, to diagnose, plan, evaluate and take part in the solution of problems and situations in this area, establishing a link between theory and practice, between university and society, and between their aspirations and the needs of their environment.
SOCIAL SECURITY AND PENSIONS	**LAT4021**	At the end of the course, the student will handle the basic concepts related to old age as a basis for the development of pension plans and recognize the different actuarial methods to study costs associated with an annuity plan.
SELECT TOPICS I	**TAT4011**	At the end of the course, the student will apply the knowledge acquired in their studies to deal more deeply with actuarial science topics.
PROFESSIONAL PRACTICE II	**LAT4061**	At the end of the course, the student will put into practice the knowledge acquired in their studies, to diagnose, plan, evaluate and take part in the solution of problems and situations in this area, establishing a link between theory and practice, between university and society, and

		between their aspirations and the needs of their environment.
TIME SERIES	LAT4071	At the end of the course, the student will master the conceptual and operational management of Forecasting and Regression Models.
ACTUARIAL SIMULATION	LAT4081	At the end of the course, the student will identify and simulate some stochastic models commonly used in the actuarial area.
SELECT TOPICS II	TAT4021	At the end of the course, the student will apply the knowledge acquired in their studies to deal more deeply with actuarial science topics.
SELECT TOPICS III	TAT4031	At the end of the course, the student will apply the knowledge acquired in their studies to deal more deeply with actuarial science topics.

LICENCIATURA IN BIOLOGY

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
FUNDAMENTALS OF BIOLOGY	LBI1011	At the end of the course, the student will recognize the general principles that determine, define and characterize living beings, integrating knowledge about diversity and emerging properties of life in the physicochemical and evolutionary context.
GENERAL CHEMISTRY LAB	LQU1021	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently

		using algebra to solve typical problems, building graphs of functions related to current problems.
GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FUNDAMENTAL BIOLOGY LAB	LBI1021	At the end of the course, the student will apply experimental techniques to the understanding and analysis of the physicochemical phenomena of living beings, coherently reporting their laboratory experiences.
EUKARYA MICROBIOLOGY LAB	LBI1041	At the end of the course, the student will identify the main groups of microscopic eukaryotes, applying collection, cultivation and identification techniques.
ORGANIC CHEMISTRY LAB I	LQU1061	At the end of the course, the student will apply the knowledge acquired to assemble equipment used in organic chemistry and perform synthesis, separation, purification and identification operations; students will use personal safety regulations, good laboratory practices and handling of hazardous waste.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
EUKARYA MICROBIOLOGY	LBI1031	At the end of the course, the student will categorize the groups of microscopic eukaryotes, their phylogenetic

		relationships, their cellular characteristics and their life cycles; diagnose the ecological, economic and medical importance of these organisms.
ORGANIC CHEMISTRY I	**LQU1051**	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly using nomenclature, stereochemistry, structure and reactivity in acid-base processes.
BIOCHEMISTRY I	**LQU2071**	At the end of the course, the student will correctly describe the structure, the physicochemical characteristics, the function and interactions of the biomolecules, as well as the methodology used for their study.
PHYSICOCHEMISTRY I	**LQU2011**	At the end of the course, the student will interpret the various processes of energy exchange, through the proper use of the principles of thermodynamics, calculating reaction heat and refer to the standard states, applying spontaneity and equilibrium criteria to various chemical and biological systems, using the concept of chemical potential to interpret physicochemical phenomena.
MYCOLOGY LAB	**LBI2041**	At the end of the course, the student will identify the groups Oomycota, Myxomycota, Zygomycota, Glomeromycota, Basidiomycota and Ascomycota, based on their cellular characteristics and reproductive structures, apply the techniques of collection, cultivation and identification of these groups.
ZOOLOGY LAB I	**LBI2021**	At the end of the course, the student will identify and analyze the morphological structures, reproductive forms and behavior of the organisms studied and describe their function, apply the knowledge acquired to compare the general characteristics of the animals studied and use techniques for the collection of specimens in the field.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MYCOLOGY	**LBI2031**	At the end of the course, the student will categorize and diagnose the cellular, trophic and reproductive characteristics of the groups of organisms studied by Mycology, arguing about the ecological function, economic and cultural importance of these groups.

INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ZOOLOGY I	**LBI2011**	At the end of the course, the student will recognize the main groups of animals and their characteristics, as well as the general relationships that exist between them, recognize the characteristics that differentiate the animals and the animal phylum that exist.
CELL BIOLOGY	**LBI2051**	At the end of the course, the student will understand the structure, organization, compartmentalization and cellular complexity necessary to support the vital phenomena both at the level of single-celled organisms and in the integration into multicellular organisms.
BIOCHEMISTRY II	**LQU3101**	At the end of the course, the student will correctly describe the metabolic pathways, their regulation, their interrelations and the organs or tissues in which they take place; analyze metabolism in normal physiological situations.
BOTANY I	**LBI2061**	At the end of the course, the student will analyze the role of plants within the evolutionary history of life on earth and illustrate what are the phylogenetic relationships of the Plantae Kingdom with other organisms, recognize and contrast the diversity of the phylums Chlorophyta, Bryophyta and Pteridophyta.
INFERENTIAL STATISTICS	**MAT2041**	At the end of the course, the student will use the tools of inferential statistics and apply parametric and nonparametric tests in the systematic analysis of data investigated in the social sciences
BOTANY LAB I	**LBI2071**	At the end of the course, the student will recognize in the field and in herbarium specimens the members of the groups: Bryophyta, Sphenophyta, Lycophyta and Pteridophyta; apply dichotomous keys for identification and macro and microscopically recognize the different plant organs.
MICROBIOLOGY LAB	**LBI2091**	At the end of the course, the student will work in sterility conditions and develop the necessary skills in the Laboratory to manipulate, grow and preserve microbiological specimens.
MICROBIOLOGY	**LBI2081**	At the end of the course, the student will correctly explain the structure, metabolism and growth

		conditions of microorganisms, as well as describe the techniques for the culture and quantification of microorganisms and select the most appropriate methods for their control.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
EXPERIMENTAL BIOLOGY	**LBI3031**	At the end of the course, the student will perform laboratory tests applied to research in chemical biological sciences and have the skill to manage and apply analytical techniques for the qualitative and quantitative determination of biomolecules and experimental parameters in in vivo and in vitro models.
MOLECULAR BIOLOGY	**LBI3021**	At the end of the course, the student will correctly describe, in writing, the relationship between structure and function of nucleic acids, the molecular mechanisms involved in the flow of information and the complex control of the flow of information in prokaryotes and eukaryotes; they solve problems in their field by applying molecular biology tools.
ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
ZOOLOGY LAB II	**LBI3051**	At the end of the course, the student will analyze, distinguish and compare the morphological characteristics present in the chordates; explain and describe, from the adaptive point of view, the relationship between structure and function in the different groups of vertebrates.
BIOTIC RESOURCES OF MEXICO	**LBI3011**	At the end of the course, the student will recognize the biotic resources that Mexico has and what is the value of each of them in terms of conservation and, in some cases, in economic terms, what are the main threats to the conservation of Mexico's biotic resources and what are the real and potential measures that are taken to protect them.

ZOOLOGY II	**LBI3041**	At the end of the course, the student will recognize the main groups of vertebrate animals and their characteristics, as well as the general relationships that exist between them and differentiate vertebrate animals and groups related to them.
BOTANY II	**LBI3061**	At the end of the course, the student will describe the phases of the life cycles of the plants of the gyngophyta, coniferophyta and magnoliophyta groups; identify in field and in herbarium specimens members of the groups Gyngophyta, Coniferophyta and Magnoliophyta.
ECOLOGY AND ENVIRONMENTAL CHANGE	**LBI3081**	At the end of the course, the student will interpret and analyze the structure and function of ecosystems considering the interactions between the different components, evaluating human effects and their consequences on ecosystems, particularly climate change, as well as the global measures for their remediation, mitigation and conservation.
PLANT PHYSIOLOGY	**LBI3141**	At the end of the course, the student will recognize the systems that make up a plant organism and understand its functioning as well as the anatomical, environmental and evolutionary factors that determine it, recognizing the various ways they are organized and how the tissue systems of the different groups of plants work.
GENETICS	**LBI3121**	At the end of the course, the student will explain the principles that govern heredity, as well as the causes of genetic variation of living beings.
BOTANY LAB II	**LBI3071**	At the end of the course, the student will identify the Phyla Gnetophyta, Gyngophyta, Coniferophyta, Cycadophyta and Magnoliophyta, based on their macroscopic and microscopic characteristics and their life cycles, apply techniques of collection, preservation and identification of plants.
ECOLOGY METHODS	**LBI3091**	At the end of the course, the student will apply techniques of collection and analysis of biotic and physical data in the field and interpret them in their ecological meaning, apply the knowledge acquired for the approach and/or the solution of current ecological problems.
MOLECULAR ANALYSIS METHODS	**LBC3091**	At the end of the course, the student will correctly describe, in writing, the techniques used in routine molecular diagnosis and their use in combination with different applications of the clinical area.

EVOLUTIONARY BIOLOGY	LBI4061	At the end of the course, the student will use evolutionary thinking in various areas of biology, explain the concepts of adaptation, biological diversity and similarity between organisms and the mechanisms of change and adaptation of organisms.
COMMUNITY ECOLOGY	LBI4031	At the end of the course, the student will evaluate the structure and functioning of biological communities, know how productivity, trophic structure and biogeochemical cycles in ecosystems are determined.
ANIMAL PHYSIOLOGY	LBI4041	At the end of the course, the student will recognize the systems that make up an animal organism and understand its functioning and the anatomical, environmental and evolutionary factors that determine it, know the various ways in which they are organized and how the organ systems of the different groups of animals work.
EVOLUTIONARY BIOLOGY LAB	LBI4071	At the end of the course, the student will analyze the mechanisms of evolutionary change, as well as current models of the evolutionary process.
PHYSIOLOGY LAB	LBI4051	At the end of the course, the student will analyze the mechanisms that the higher plants use to maintain the water balance, the capture of light energy and its transformation into nutritious substances, as well as the response of the plants to stressful situations, distinguish the main tissues and animal organs and explain different physiological processes associated with these structures.
MOLECULAR METHODS AND VIROLOGY LAB	LBC4041	At the end of the course, the student will correctly apply the techniques used to diagnose viruses and molecular.
PROFESSIONAL PRACTICE I	LBI4021	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of Biology and solve situations of adaptation to a new work environment.
SELECT TOPICS I	TBI4011	At the end of the course, the student will apply and relate the knowledge in a biological sciences topic from a current point of view.
DEVELOPMENTAL BIOLOGY	LBI4091	At the end of the course, the student will recognize and understand the processes by which organisms grow and develop, and those involved in the genetic control of cell growth, cell differentiation and morphogenesis.

DEVELOPMENTAL BIOLOGY LAB	LBI4101	At the end of the course, the student will describe and analyze the morphology, sexual reproduction and embryonic development in plants and animals, identifying the different structures and processes involved in the growth and development of plants and animals.
BIOLOGY CONSERVATION METHODS	LBI4111	At the end of the course, the student will recognize the role of biology in the conservation of species of organisms, so that they influence all dimensions of human life.
PROFESSIONAL PRACTICE II	LBI4081	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of Biology and solve situations of adaptation to a new work environment.
SELECTED TOPICS II	TBI4021	At the end of the course, the student will apply and relate the knowledge in a biological sciences topic from a current point of view.
SELECTED TOPICS III	TBI4031	At the end of the course, the student will apply and relate the knowledge in a biological sciences topic from a current point of view.

LICENCIATURA IN CLINICAL BIOCHEMISTRY

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO HEALTH SCIENCES	LCF1011	At the end of the course, the student will have a general and integrative vision of various conceptual and methodological elements to study the human being in a state of health and in a state of disease, the scientific bases of the clinical diagnosis and its therapeutics, the relationship between health professionals and patients, the different care frameworks, disease prevention and health promotion.
GENERAL CHEMISTRY LAB	LQU1021	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge
ORGANIC CHEMISTRY LAB I	LQU1061	At the end of the course, the student will apply the knowledge acquired to assemble equipment used in organic chemistry and perform synthesis, separation, purification and identification operations; students will use personal safety regulations, good laboratory practices and handling of hazardous waste.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ORGANIC CHEMISTRY I	LQU1051	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly manage nomenclature, stereochemistry, structure and reactivity in acid-base processes.

INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
BIOCHEMISTRY I	LQU2071	At the end of the course, the student will correctly describe the structure, the physicochemical characteristics, the function and interactions of the biomolecules, as well as the methodology used for their study.
INFERENTIAL STATISTICS	MAT2041	At the end of the course, the student will use the tools of inferential statistics and apply parametric and nonparametric tests in the systematic analysis of data investigated in the social sciences
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
PHYSICOCHEMISTRY I	LQU2011	At the end of the course, the student will interpret the various processes of energy exchange, through the proper use of the principles of thermodynamics, calculating reaction heat and refer to the standard states, applying spontaneity and equilibrium criteria to various chemical and biological systems, using the concept of chemical potential to interpret physicochemical phenomena.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ORGANIC CHEMISTRY II	LQU2031	At the end of the course, the student will describe the different reaction mechanisms of organic compounds and explain the relationship between the properties and transformations of the different organic functional groups.
CELL BIOLOGY	LBI2051	At the end of the course, the student will understand the structure, organization, compartmentalization and cellular complexity necessary to support the vital phenomena both at the level of single-celled organisms and in the integration into multicellular organisms.
BIOCHEMISTRY II	LQU3101	At the end of the course, the student will correctly describe the metabolic pathways, their regulation, their interrelations and the organs or tissues in which they take place; analyze metabolism in normal physiological situations.

HISTOLOGY	**LBC2011**	At the end of the course the student will describe and identify the microscopic structures of the cells, tissues and organs that make up the different systems of the human body.
MICROBIOLOGY LAB	**LBI2091**	At the end of the course, the student will work in sterile conditions and develop the necessary laboratory skills to manipulate, grow and preserve microbiological specimens.
ANALYTICAL CHEMISTRY LAB	**LQU2061**	At the end of the course, the student will use the material and laboratory equipment, knowing the chemical analysis techniques commonly used in quality control laboratories.
MICROBIOLOGY	**LBI2081**	At the end of the course, the student will correctly explain the structure, metabolism and growth conditions of microorganisms, as well as describe the techniques for the culture and quantification of microorganisms and select the most appropriate methods for their control.
ANALYTICAL CHEMISTRY	**LQU2051**	At the end of the course, the student will identify the principles of analytical chemistry and apply them to problem solving in chemistry and related disciplines such as the biological and health sciences.
ANATOMY AND PHYSIOLOGY	**LBC3021**	At the end of the course, the student will interpret the physiological processes of the main systems and apparatuses of the human body.
MEDICAL BACTERIOLOGY	**LBC3031**	At the end of the course, the student will differentiate the most important bacterial groups in the field of human health and the common and current methods for their isolation and identification, as well as their relationship with different human pathologies, the treatment of choice or their prevention if it exists.
EXPERIMENTAL BIOLOGY	**LBI3031**	At the end of the course, the student will perform laboratory tests applied to research in chemical biological sciences and has the skill for the management and application of analytical techniques for the qualitative and quantitative determination of biomolecules and experimental parameters in in vivo and in vitro models.
MOLECULAR BIOLOGY	**LBI3021**	At the end of the course, the student will correctly describe, in writing, the relationship between structure and function of nucleic acids, the molecular mechanisms involved in the flow of information and the complex control of the flow of information in prokaryotes and eukaryotes; able to solve problems in their area by applying molecular biology tools.
ANATOMY AND HISTOLOGY LAB	**LBC3051**	At the end of the course, the student will locate and identify the structures of the cells, tissues and organs that make up the different systems of the human body.

CLINICAL MYCOLOGY	LBC3041	At the end of the course, the student will differentiate the types of pathogenic fungi, studying the role they play in infectious diseases, through their life cycles, morphologies, their forms of reproduction and the mechanisms they use to cause disease in humans, to contribute to the prevention of mycosis.
MEDICAL PARASITOLOGY	LBC3011	At the end of the course, the student will participate together with other health professionals in the diagnosis and prevention of parasitic diseases.
PHYSIOPATHOLOGY	LBC3071	At the end of the course, the student will interpret the basic mechanisms of the pathological processes shared by different diseases and the specific mechanisms involved in the production and clinical manifestations of these diseases.
GENETICS	LBI3121	At the end of the course, the student will explain the principles that govern heredity, as well as the causes of genetic variation of living beings.
HEMATOLOGY	LBC3101	At the end of the course, the student will apply the knowledge acquired about hematological morphology and physiology and the basic diagnostic methodology to analyze and interpret laboratory results during hematological pathological alterations.
IMMUNOLOGY	LBC3061	At the end of the course, the student will describe and analyze the structure and function of the molecules and cells involved in the immune response in humans and analyze the conceptual and operational management of the main types of immune response, stages, cells and tissues.
DIAGNOSTIC CLINICAL LAB	LBC3081	At the end of the course, the student will handle and integrate the basic terminology used in hematology and immunology and its application in the clinical laboratory, perform and interpret immunohematological laboratory tests for diagnostic support.
MEDICAL MICROBIOLOGY DIAGNOSTIC LAB	LCF3071	At the end of the course, the student will isolate and systematically identify microorganisms from biological and food samples.
MOLECULAR ANALYSIS METHODS	LBC3091	At the end of the course, the student will correctly describe, in writing, the techniques used in routine molecular diagnosis and their use in combination with different applications of the clinical area.
INSTRUMENTAL ANALYSIS	LQU4031	At the end of the course, the student will efficiently use the various instrumental techniques of analysis, to establish an adequate methodology for the development of a complete chemical analysis and to apply the necessary criteria to

		correctly interpret the experimental results obtained using physicochemical methods of analysis.
CLINICAL BIOCHEMISTRY	LBC4051	At the end of the course, the student will apply and interpret laboratory tests to determine the alterations that affect the metabolism of carbohydrates, lipids, amino acids, proteins; discuss the role they play as diagnostic aids in the alterations of the acid-base balance, liver, pancreatic and cardiac pathologies of the organism.
DIAGNOSTIC CLINICAL LAB II	LBC4021	At the end of the course, the student will handle and integrate the basic terminology used in clinical biochemistry and its application in the clinical laboratory; perform and interpret clinical laboratory tests for diagnostic support.
INSTRUMENTAL ANALYSIS LAB	LQU4041	At the end of the course, the student will identify and quantify the analysis of a sample through the physicochemical treatment and the instrumental analysis of the same.
MOLECULAR METHODS AND VIROLOGY LAB	LBC4041	At the end of the course, the student will correctly use the techniques used in the diagnosis of viruses and molecular.
PROFESSIONAL PRACTICE I	LBC4061	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different Biochemistry areas and solve adaptation situations to a new work environment.
SELECT TOPICS I	TBC4011	At the end of the course, the student will apply and relate the knowledge a biochemical sciences topic from a current point of view.
MEDICAL VIROLOGY	LBC4011	At the end of the course, the student will understand the clinical aspects of viruses, their pathogenesis as well as the immune response that may occur with each virus; relate the clinical diagnostic aspect and the existing treatments for each case.
QUALITY ASSURANCE	LBC4081	At the end of the course, the student will identify the requirements that clinical analysis laboratories must meet to demonstrate that they operate with a quality system, that they are technically competent and that they can generate technically valid results.
TOXICOLOGY AND FORENSIC MEDICINE LAB	LBC4091	At the end of the course, the student will identify, analyze and report the clinical consequences of poisonings caused by organic, inorganic and biological compounds and select the

		most appropriate methodology to analyze forensic samples and their interpretation.
FORENSICS	**LBC4101**	At the end of the course, the student will select the most appropriate methodology for the extraction and analysis of forensic samples.
PROFESSIONAL PRACTICE II	**LBC4111**	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different Biochemistry areas and solve adaptation situations to a new work environment.
SELECT TOPICS II	**TBC4021**	At the end of the course, the student will apply and relate the knowledge a biochemical sciences topic from a current point of view.
SELECT TOPICS III	**TBC4031**	At the end of the course, the student will apply and relate the knowledge a biochemical sciences topic from a current point of view.
TOXICOLOGY	**LBC4071**	At the end of the course, the student will classify the harmful substances to which living organisms are exposed in the environment based on their origin, their degree of toxicity, their toxicokinetics and their toxicodynamics; recognize the national and international regulations governing toxicology in the various areas of professional development; recognize the methodology involved in the identification, analysis and clinical consequences of the action of toxic compounds of very varied origins to which humans may be exposed to prevent and treat poisonings.

LICENCIATURA IN NUTRITION SCIENCES

ENGLISH I	**ESP0011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO NUTRITION SCIENCES	**LCN1011**	At the end of the course, the student will identify the professional fields in which nutritionists can work.
GENERAL CHEMISTRY LAB	**LQU1021**	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.

FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will demonstrate that he uses elementary mathematical concepts and techniques that allow him to solve problems related to his Profession, efficiently operate the algebra of sets in the solution of problems typical of his professional practice, use the concepts of algebra to build graphs of functions related to current problems.
GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
NUTRITIONAL DIAGNOSIS	LCN1021	At the end of the course, the student will identify anthropometric techniques to assess the nutritional status of people, apply and interpret clinical analysis to determine their nutritional status.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
ANALYTICAL CHEMISTRY LAB	LQU2061	At the end of the course, the student will manipulate the material and laboratory equipment used in analytical chemistry, knowing the chemical analysis techniques commonly used in quality control laboratories.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ANALYTICAL CHEMISTRY	LQU2051	At the end of the course, the student will identify the principles of Analytical Chemistry and apply them to problem solving in chemistry and related disciplines such as the biological and health sciences.

ORGANIC CHEMISTRY I	LQU1051	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly manage nomenclature, stereochemistry, structure and reactivity in acid-base processes.
BIOCHEMISTRY I	LQU2071	At the end of the course, the student will correctly describe the structure, the physicochemical characteristics, the function and interactions of the biomolecules, as well as the methodology used for their study.
PHYSICOCHEMISTRY I	LQU2011	At the end of the course, the student will interpret the various processes of energy exchange, through the proper use of the principles of thermodynamics, calculating reaction heat and refer to the standard states, applying spontaneity and equilibrium criteria to various chemical and biological systems, using the concept of chemical potential to interpret physicochemical phenomena.
MICROBIOLOGY LAB	LBI2091	At the end of the course, the student will work in sterile conditions and develop the necessary laboratory skills to manipulate, grow and preserve microbiological specimens.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MICROBIOLOGY	LBI2081	At the end of the course, the student will correctly explain the structure, metabolism and growth conditions of microorganisms, as well as describe the techniques for the culture and quantification of microorganisms and select the most appropriate methods for their control.
DIETARY CALCULATION WORKSHOP	LCN2011	At the end of the course, the student will identify the techniques used to determine the nutritional composition of the diet consumed by a person or a group of people; know the sources of information on the chemical composition of fresh and processed foods and apply this information in the calculation of nutrients.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as

		the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
CELL BIOLOGY	LBI2051	At the end of the course, the student will understand the structure, organization, compartmentalization and cellular complexity necessary to support the vital phenomena both at the level of single-celled organisms and in the integration into multicellular organisms.
BIOCHEMISTRY II	LQU3101	At the end of the course, the student will correctly describe the metabolic pathways, their regulation, their interrelations and the organs or tissues in which they take place; analyze metabolism in normal physiological situations.
BROMATOLOGY	ALI2011	At the end of the course, the student will identify the nutritional contribution of each group of fresh and processed foods and the methods used in determining the chemical composition of foods; know the main methods of food preservation, the additives used in processed foods and the effects of processing on their nutritional quality.
GOOD CULINARY PRACTICES	LCN2031	At the end of the course, the student will apply the basic methods of measurements, equipment used, health standards and hygiene techniques in the handling of food; apply the basic techniques for the preparation of food without losing its nutritional properties.
FOOD PROCESSING	LCN2041	At the end of the course, the student will use the theoretical knowledge acquired in previous courses on the nutritional and energy calculations of menus; design the most suitable menus to solve specific nutritional problems and elaborate balanced menus applying the most recommended cooking techniques.
GENERAL PHARMACOLOGY	LCF2011	At the end of the course, the student will identify the pharmacological bases of the current therapeutics and express themselves correctly using the specific terminology of pharmacology; understand the important current challenges of pharmacology in the discovery of new drugs through the knowledge of their behavior in the body and the circumstances that modify the response to pharmacological treatment.
ANATOMY AND PHYSIOLOGY	LBC3021	At the end of the course, the student will interpret the physiological processes of the main systems and apparatuses of the human body.
EXPERIMENTAL BIOLOGY	LBI3031	At the end of the course, the student will perform laboratory tests applied to research in chemical biological

		sciences and have the skill to manage and apply techniques for the qualitative and quantitative determination of biomolecules and experimental parameters in in vivo and in vitro models.
MOLECULAR BIOLOGY	**LBI3021**	At the end of the course, the student will correctly describe, in writing, the relationship between structure and function of nucleic acids, the molecular mechanisms involved in the flow of information and the complex control of the flow of information in prokaryotes and eukaryotes; able to solve problems in their field by applying molecular biology tools.
INFERENTIAL STATISTICS	**MAT2041**	At the end of the course, the student will use the tools of inferential statistics and apply parametric and nonparametric tests in the systematic analysis of data investigated in the social sciences
ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
COMMUNITY NUTRITION	**LCN3011**	At the end of the course, the student will apply the skills learned throughout the career in the identification and study of problems related to community nutrition, identify the main problems of social nutrition in Mexico and its region.
NUTRITIONAL BIOCHEMISTRY	**LIA3041**	At the end of the course, the student will identify the way in which each nutrient is digested, absorbed, transported, stored and discarded by humans, the metabolic functions of each nutrient and the effects of excesses and deficiencies of each nutrient on human health, to know the nutritional requirements of each nutrient of healthy people depending on the sex , age, physical constitution and population of origin.
PHYSIOPATHOLOGY	**LBC3071**	At the end of the course, the student will interpret the basic mechanisms of the pathological processes shared by different diseases and the specific mechanisms involved in the production and clinical manifestations of these diseases.
GENETICS	**LBI3121**	At the end of the course, the student will explain the principles that govern heredity, as well as the causes of genetic variation of living beings.

IMMUNOLOGY	LBC3061	At the end of the course, the student will describe and analyze the structure and function of the molecules and cells involved in the immune response in humans and analyze the conceptual and operational management of the main types of immune response, stages, cells and tissues.
PUBLIC HEALTH AND EPIDEMIOLOGY	LCN3031	At the end of the course, the student will identify, characterize and evaluate public health and epidemiology problems from a multidisciplinary aspect.
INTERVIEW THEORY AND TECHNIQUES	PSI2041	At the end of the course the student will be able to define, differentiate and recognize the different types of psychological interviews and their characteristics, and have basic skills to apply them.
TOXICOLOGY	LBC4071	At the end of the course, the student will classify the harmful substances to which living organisms are exposed in the environment based on their origin, their degree of toxicity, their toxicokinetics and their toxicodynamics; recognize the national and international regulations governing toxicology in the various areas of professional development; recognize the methodology involved in the identification, analysis and clinical consequences of the action of toxic compounds of very varied origins to which humans may be exposed to prevent and treat poisonings.
CLINICAL BIOCHEMISTRY	LBC4051	At the end of the course, the student will apply and interpret laboratory tests to determine the alterations that affect the metabolism of carbohydrates, lipids, amino acids, proteins; discuss the role they play as diagnostic aids in the alterations of the acid-base balance, liver, pancreatic and cardiac pathologies of the organism.
CLINICAL CASES I	LCN4021	At the end of the course, the student will intervene as a nutritionist in cases of patients with various nutritional problems, geriatric patients and mothers during pregnancy and post-pregnancy and their babies.
CLINICAL NUTRITION I	LCN4011	At the end of the course, the student will interpret the clinical nutritional diagnosis knowing the treatment routes used in a nutritional therapy and the design of therapeutic diets, applies the appropriate methodology to ensure the health of people with eating problems, the elderly and the mother / fetus / baby.

NUTRIGENOMICS	LCN4031	At the end of the course, the student will apply the concepts of nutritional genomics, understand genomics and genetic regulation in relation to diet and recognize the role and importance of nutrition in the prevention of polygenic diseases; apply nutrigenomics, bioinformatics, polymorphisms of a nucleotide, microarrays, proteomics, metabolomics and systems biology and design nutritional strategies for the prevention of chronic diseases such as cardiovascular diseases, obesity, type 2 diabetes, metabolic syndrome and cancer; use genomic databases.
PROFESSIONAL PRACTICE I	LCN4041	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in nutrition and solve situations of adaptation to a new work environment.
SELECT TOPICS I	TCN4011	At the end of the course, the student will apply and relate the knowledge in a nutritional sciences topic from a current point of view.
SELECT TOPICS II	TCN4021	At the end of the course, the student will apply and relate the knowledge in a nutritional sciences topic from a current point of view.
CLINICAL CASES II	LCN4061	At the end of the course, the student will interact with the medical team and participate as a nutritionist in the diagnosis and nutritional intervention of real cases of patients under very different pathologies.
CLINICAL NUTRITION II	LCN4081	At the end of the course, the student will understand the epidemiology, pathophysiology, diagnosis, classification and nutritional therapy in the case of diseases of the digestive system, liver, kidney, pancreatic, hematological and circulatory system.
NUTRITION AND EXERCISE PHYSIOLOGY	LCN4051	At the end of the course, the student will understand the physiological changes that occur in the human body under exercise conditions, how the different nutrients are used during exercise, what are the additional nutritional demands required and how to supply them through diet; apply this knowledge to therapy through the exercise of people with different types of eating disorders or recovering from diseases.
PROFESSIONAL PRACTICE II	LCN4071	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in nutrition and solve situations of adaptation to a new work environment.

SELECT TOPICS III	TCN4031	At the end of the course, the student will apply and relate the knowledge in a nutritional sciences topic from a current point of view.

LICENCIATURA IN NURSING

HUMAN ANATOMY AND PHYSIOLOGY I	EF 104	Understand the structure and normal functioning of the human organism, as a basis for the acquisition of knowledge by identifying the various diseases in the individual.
GENERAL STUDIES I	EGENI	
NURSING FUNDAMENTALS I	EF 103	Ability to meet the basic needs of the human being using the nursing care process and guiding their professional actions so that the individual develops and reaches the maximum his capacity for self-care.
HISTORY OF NURSING	EF 101	Identify nursing through its history and evolution to the present day, in which the student integrates knowledge in holistic care in the exercise of their profession.
NUTRITION AND METABOLISM	MD 135	Recognize the importance of food as a provider of nutrients, as well as the requirement, the way in which they are assimilated by the human body, their physiological and metabolic function; appreciate clinical nutrition as a balance in the actions of prevention, diagnosis and treatment of nutritional disorders in different states of health and disease.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
NURSING OVERVIEW	EF 102	Apply nursing techniques in the holistic care of the human being. Develop the theoretical-practical procedures acquired in the laboratory classroom in a correct way for the comprehensive care of the healthy and sick individual.
HUMAN ANATOMY AND PHYSIOLOGY II	EF 105	Analyze the structure and normal functioning of the human organism, to identify diseases in the individual, in the different devices and systems of the body.
PROFESSIONAL WRITING	PC 214	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.

NURSING FUNDAMENTALS II	EF 108	Attend to the basic needs of the human being by diagnosing the nursing care process in the individual by applying a care plan.
FUNDAMENTALS LAB	EF 109	Develop practical skill through procedures and reflection in the simulated clinical practice of the nursing laboratory, for the professional work in the healthy or sick individual.
SURGICAL PATHOLOGY	EF 106	Analyze and understand the structure and functioning of the surgical pathologies of the human organism and diagnose the disease in the individual.
CLINICAL PRACTICE I	EF 110	Demonstrate theoretical knowledge in clinical practice; also provide and implement a personalized nursing care plan with a comprehensive and ethical vision in the healthy or sick individual.
PUBLIC HEALTH	EF 107	Prevent and promote the health, specific protection and rehabilitation of the healthy or sick individual using the scientific method as a working tool.
PUBLIC HEALTH NURSING	EF 202	Implement in the community a health promotion program, through the prevention, specific protection and rehabilitation of the healthy or sick individual to apply public health nursing care to the population.
SURGICAL MEDICAL NURSING	EF 201	Analyze the pathophysiological mechanisms of diseases, identify the clinical manifestations of each of them, apply a care plan according to human needs that may be altered because of different pathological processes and potential complications.
GENERAL STUDIES II	EGENII	
HEALTH RESEARCH	MD 313	Acquire knowledge in the methodology of research on scientific research studies with the help of the qualitative and quantitative method through observation, experimentation, using epidemiology and biostatistics as a tool to carry out real research in the solution of health problems.
MICROBIOLOGY AND PARASITOLOGY	MD 112	Master the basic knowledge of Microbiology and Parasitology, employ a scientific, logical, systematic approach when applying the appropriate technology, to recover and identify microorganisms (bacteria, viruses and fungi) of clinical interest in our environment and relate in a critical way, the diagnosis and treatment with the type of infection.
CLINICAL PRACTICE II	EF 203	Analyze the pathophysiological mechanisms of the diseases, implementing a plan of care of the clinical manifestations of each of them, as well as the human needs of the different pathological processes and the potential complications. Apply theoretical knowledge through direct participation with the community and care units corresponding to the first level to

		address health problems by making a community health diagnosis.
SECOND LANGUAGE I	**ID I**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
SPECIALTY NURSING	**EF 207**	Act in a professional manner in areas of specialty through the practice and understanding of health care, this through the interpretation of human responses to improve the quality of life using a plan of care of the nursing process.
PEDIATRICS AND OBSTETRICS LAB	**EF 208**	Apply theoretical knowledge in simulated clinical practice in the laboratory, acquiring and developing attitudes and skills for the profession.
OBSTETRICS I	**EF 206**	Apply theoretical-practical knowledge in obstetrics to implement a care plan in the care of low-risk pregnant women, as well as detect high-risk pregnancy to channel to the different levels of care of women in the reproductive stage in a holistic way to prevent, maintain and recover their health.
PEDIATRIC PATHOLOGY	**EF 204**	Master the fundamentals of pediatric patient assessment, Analyze the functional alterations that occur in pediatric disease; implement a nursing care plan focused on the diagnosis and appropriate treatment based on the nursing process.
CLINICAL PRACTICE III	**EF 209**	Provide reproductive health care services, as well as newborn care, incorporating the risk approach. Likewise, develop and carry out a care plan according to the diagnosis and treatment aimed at the reproductive health of women and pediatrics.
HEALTH DISEASE PROCESS	**EF 205**	Identify the theoretical, methodological and philosophical elements that explain the health disease process in the Mexican population. Implement a plan of care for individual and collective health care according to the priority health programs in force.
SECOND LANGUAGE II	**ID II**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
BIOETHICS IN NURSING	**EF 301**	Understand ethical values and legal norms that can be applied to situations in health and life. Analyze a clinical case in professional nursing practice based on the rights of people to their care.
PEDIATRIC NURSING	**EF 302**	Develop their knowledge in the different procedures by carrying out a care plan for the pediatric patient who is hospitalized and thus provide optimal and timely care, applying the nursing process.

GENERAL STUDIES III	EGENIII	
OBSTETRICS II	EF 303	Develop theoretical-practical knowledge in relation to risk factors and damage to health that predispose biopsychosocial alterations, diagnostic methods and preventive-therapeutic treatments applied to situations that complicate the process of human reproduction to develop a clinical technique, to provide nursing care during the reproductive process and to the high-risk newborns.
CLINICAL PRACTICE IV	EF 304	Provide nursing care to the population that demands reproductive health care services. Implement a nursing care plan for women in the reproductive and newborn stages, incorporating the risk approach.
MEDICAL PSYCHOLOGY	MD 230	Analyze the origin, development and principles that support medical psychology as an important part in the patient doctor relationship and the way in which the student should make the relationship with their organic problem.
SECOND LANGUAGE III	ID III	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
TEACHING AND DIDACTICS IN NURSING	EF 309	Analyze health education as an intentional social process, apply a plan of pedagogical-didactic strategies that guide nursing interventions in the person or in the groups.
SEX EDUCATION	EF 308	Analyze the different aspects of human sexuality, planning the care of the various pathologies of sexually transmitted diseases in adolescents and adults
NURSING IN PREHOSPITAL MEDICINE	EF 307	Understand the hospital area to implement a care plan for adult and pediatric patients in emergency situations and perform the initial management of it.
GERIATRICS	EF 306	Analyze the pathologies in geriatrics, as well as the clinical issues of the various diagnoses and treatments implementing a plan of care for chronic degenerative diseases.
PSYCHIATRIC PATHOLOGIES	EF 305	Analyze and understand the pathologies in the psychiatric area, as well as the clinical issues of the various diagnoses and treatments implementing a specific care plan of the disease.
CLINICAL PRACTICE V	EF 310	Apply nursing knowledge in the prehospital area by implementing a care plan for adult and pediatric patients, in clinical practice and in emergency situations; analyze the educational processes that are carried out in educational or health institutions and applies innovative proposals for the training and development of nursing professionals.

GERIATRIC NURSING	EF 402	Acquire and integrate nursing knowledge in the hospital area to provide holistic care to the elderly patient based on nursing care through the nursing process.
PSYCHIATRIC NURSING	EF 401	Identify the human needs to formulate a nursing care plan, considering each person individually and as a whole, applying the principles and procedures of psychiatric nursing, achieving that they apply them in their person and their relationships in general.
GENERAL STUDIES IV	EGENIV	
OCCUPATIONAL MEDICINE	MD 315	Identify health risk factors derived from the performance of the work: diagnose pathological manifestations that are a consequence of the performance of the different work activities; apply appropriate preventive measures and know the current labor legislation.
CLINICAL PRACTICE VI	EF 403	Identify the human needs to carry out a nursing care plan, considering each person individually and as a whole, applying the principles and procedures of psychiatric and geriatric nursing, so they apply them in their person and their relationships in general.
GRADUATION PROJECTI	EF 498	Integrate the theoretical and practical knowledge acquired throughout the degree, to carry out an investigation of a specific problem within health.
ADMINISTRATION IN NURSING SERVICES	EF 404	Analyze the elements that make up the administration of care and services as well as those related to the guarantee of quality in the care that is provided in health institutions; implementing an administrative improvement plan.
NURSING IN THE INDUSTRIAL AREA	EF 406	Apply nursing knowledge to implement a health program in the holistic care of adult and pediatric patients. Detect occupational health situations and to manage them.
TANATOLOGY NURSING	EF 405	Understand tanatology to integrate a vision around death and the management of losses as natural processes, which begin from birth itself, until the end of the cycle of life with death.
GENERAL STUDIES V (CO-CURRICULAR)	EGENV	
CLINICAL PRACTICE VII	EF 407	Integrate a program in the administration of care and services within health organizations and the industrial area, as well as those related to the guarantee of quality in the care that is granted in health.

GRADUATION PROJECT II	EF 499	Validate the ability to integrate theoretical and practical knowledge acquired by the student throughout the degree, for the realization of a research in health in nursing.

LICENCIATURA IN PHYSICS

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
ANALYTIC GEOMETRY	LME1011	At the end of the course, the student will use vectors to calculate lengths and angles and obtain the equations of lines, planes, circumferences and spheres; to identify the conics from their equations and the application of translation and rotation of axes; and to make coordinate changes between Cartesian coordinates and polar coordinates.
INTRODUCTION TO PHYSICS	LFA1011	At the end of the course, the student will handle the main ideas that have motivated the development of physics and its resulting theories, in addition, they will be able to raise and solve elementary problems of physics.
INTRODUCTION TO PROGRAMMING	LIS1011	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
MATHEMATICAL ANALYSIS I	LME1031	At the end of the course, the student will understand and explain the theory of continuous functions, differential calculus, the relationship between integration and derivation, logarithm and exponential functions, the approximation of

		functions by polynomials and sequences and series of numerical and functions, as well as improper integrals.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
EXPERIMENTAL PHYSICS FUNDAMENTALS	LFA1021	At the end of the course, the student will handle and practice the experimental methods of Physics in such a way that their scientific knowledge is strengthened with the study of Physical phenomena.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
OBJECT-ORIENTED PROGRAMMING	LIS1031	At the end of the course, the student will design and program with the object-oriented paradigm, and to know and apply design techniques, UML notation (UNIFIED MODELING LANGUAGE) and the Java or C# programming language.
MATRIX THEORY	LME1021	At the end of the course, the student will apply the concepts and properties of the elements defined in linear algebra to various geometry, linear programming and differential equations problems.
MATHEMATICAL ANALYSIS II	LME2011	At the end of the course, the student will understand and explain the theory of differential calculus of scalar and vector fields, line integrals, multiple integrals and surface integrals.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MECHANICS	FIS2011	At the end of the course, the student will analyze and apply Newton's laws as well as the concepts of conservation of momentum and energy, in addition, to show the ability to learn and update autonomously their knowledge in the modeling of physical phenomena using the concept of energy.
EXPERIMENTAL MECHANICS	LFA2011	At the end of the course, the student will know and handle the experimental methods of Mechanics, as well as master the

		techniques of computerized monitoring and processing of experimental data.
PROBABILITY AND STATISTICS	**MAT2061**	At the end of the course, the student will handle the basic concepts of statistics and probability and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
HEAT, WAVES AND FLUIDS	**LFA2021**	At the end of the course, the student will handle the fundamentals of wave motion, thermal phenomena and the fundamental laws of thermodynamics as well as fluid behavior and understand thermal phenomena, solve corresponding problems and know the applications.
EXPERIMENTAL HEAT, WAVES AND FLUIDS	**LFA2031**	At the end of the course, the student will distinguish the dynamic variables of a wave phenomenon; use the concepts of heat and thermodynamic variables such as pressure, temperature and density; as well as handle the basic concepts of statics and fluid dynamics.
ORDINARY DIFFERENTIAL EQUATIONS	**MAT2051**	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
PROBABILITY AND ADVANCED STATISTICS	**MAT2071**	At the end of the course, the student will apply statistical methods, to make inferences about the population parameters in problems related to their area of study.
COMPUTATER SIMULATION	**LME3061**	At the end of the course, the student will use mathematics and the computer to solve algebraic and computational problems and visualize their solutions; to design cellular automata; to simulate and model economic and physical phenomena; to

		solve optimization problems; and to simulate complex phenomena and fractal time series.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
MATERIALS SCIENCE	**MEC2011**	At the end of the course, the student will master the knowledge of properties, structure and materials derived from different chemical compounds, from the point of view of the chemical sciences and considering their potential technological application as nanostructured materials, understand the relationship between structure and molecular properties and those at the macroscopic level.
PARTIAL DIFFERENTIAL EQUATIONS	**LME3031**	At the end of the course, the student will calculate Fourier series, solve the Sturm-Liouville problem and value problems at the boundary in rectangular coordinates and other coordinate systems.
ELECTROMAGNETISM	**FIS3011**	At the end of the course, the student will understand the electrical and magnetic phenomena, analyze everyday situations to abstract the phenomena studied and solve problems related to them. In addition, they will translate the studied processes into the language of mathematics to quantify them.
EXPERIMENTAL ELECTROMAGNETISM	**LFA3011**	At the end of the course, the student will apply their knowledge in electromagnetism, proposing free practices to apply and understand electrical and magnetic phenomena in experimental situations and understand electrical and magnetic phenomena, as well as analyze experimental situations and know their applications.
ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
CLASSICAL MECHANICS	**LFA3021**	At the end of the course, the student will master the formulation of classical mechanics from the principles and laws of conservation in inertial and non-inertial systems.

MODERN PHYSICS	LFA3051	At the end of the course, the student will analyze 20th century, emphasizing the difficulties with classical physics that gave rise to the theory of relativity and quantum mechanics, handle quantum phenomena, and solve the corresponding problems.
EXPERIMENTAL MODERN PHYSICS	LFA3061	At the end of the course, the student will master an overview of the experimental background of modern physics from an analysis of the difficulties of classical physics and handle the experimental methods of modern physics, as well as the techniques of computerized monitoring and processing of experimental data.
MATHEMATICAL PHYSICS METHODS I	LFA3071	At the end of the course, the student will use linear algebra concepts and exemplify group theory in the most used cases in modern physics, show the theory of complex variable functions and apply it in the solution of problems frequently found in theoretical and applied physics.
NANOMATERIALS I	LNM2011	At the end of the course, the student will establish a classification of nanomaterials based on composition and form, know the different methods of synthesis both chemical and physical, characterize by spectroscopic and microscopic methods the different nanomaterials.
OPTICS	LFA3031	At the end of the course, the student will understand the optical phenomena, solve the corresponding problems and translate the processes studied into the language of mathematics to quantify them and know the applications.
EXPERIMENTAL OPTICS	LFA3041	At the end of the course, the student will experimentally handle optical phenomena such as interference, diffraction, reflection and refraction of light waves and solve corresponding problems, to translate the processes studied into the language of mathematics to quantify them and know the applications.
ELECTRODYNAMICS	LFA4031	At the end of the course, the student will critically analyze Maxwell's laws of electrodynamics and demonstrate abilities for learning and autonomous updating to apply these laws in nature.
QUANTUM MECHANICS I	LFA4051	At the end of the course, the student will understand the bases on which quantum mechanics develops, including the quantization of angular momentum, the temporal evolution of a system, and matrix mechanics in one dimension, and will know how to apply quantum models to simple physical systems, such as the harmonic oscillator.
MATHEMATICAL PHYSICS METHODS II	LFA4041	At the end of the course, the student will apply the properties of the functions of Bessel, Legendre, Hermite, Laguerre, Chebychev and Fourier, to different contexts of classical and

		quantum physics. In addition, to handle integral transforms and apply them in solving problems related to classical and quantum physics.
PROFESSIONAL PRACTICE I	LFA4011	At the end of the course, the student will diagnose, plan, evaluate and take part in the solution of problems and situations of his area, establishing a link between theory and practice.
SELECT TOPICS I	TFA4011	At the end of the course, the student will apply the knowledge acquired in their studies to deal more deeply with classical, modern or current physics topics.
CLASSICAL THERMODYNAMICS	LFA4021	At the end of the course, the student will model reversible and irreversible processes, via the use of thermodynamic potentials, identify, analyze and solve in a creative and critical way the interdisciplinary problems present in the description of reversible and irreversible processes.
COMPUTATIONAL PHYSICS	LFA4071	At the end of the course, the student will use the hardware and software resources at their disposal to be able to implement computational simulations of physical processes with stochastic components.
QUANTUM MECHANICS II	LFA4081	At the end of the course, the student will analyze quantum systems subject to perturbations and apply methodologies in the study of particle interactions in electromagnetic fields.
STATISTICAL MECHANICS	LFA4091	At the end of the course, the student will handle microscopic models, to describe phenomena of transport of matter and energy, whether classical or quantum.
PROFESSIONAL PRACTICE II	LFA4061	At the end of the course, the student will diagnose, plan, evaluate and take part in the solution of problems and situations of their profession, establishing a link between theory and practice, between the university and society, between their aspirations and the needs of their environment.
SELECT TOPICS II	TFA4021	At the end of the course, the student will apply the knowledge acquired in their studies to deal more deeply with classical, modern or current physics topics.
SELECT TOPICS III	TFA4031	At the end of the course, the student will apply the knowledge acquired in their studies to deal more deeply with classical, modern or current physics topics.

LICENCIATURA IN MEDICAL SURGEON

HUMAN ANATOMY	MD 102	Comprehensively understand human anatomy as a foundation to build semiological and clinical knowledge of

		the formative stage of the degree, identifying normal anatomical structures from various aspects including imaging.
CLINICAL BIOCHEMISTRY	MD 101	Understand and master the basic knowledge of Biochemistry, the scientific reasoning of how chemicals interact, their metabolism, biochemical alterations in the normal and abnormal functioning of the organism using a critical attitude that correlates the knowledge of Biochemistry with the proper diagnosis and treatment.
GENERAL STUDIES I	ESTGI	
GENERAL STUDIES II	ESTGII	
MEDICAL PHYSIOLOGY	MD 100	Master the basic knowledge of Medical Physiology and the fundamentals of the normal functioning of the organism. Likewise, analyze the functional alterations that occur in the disease, use scientific reasoning and a critical attitude that correlates the knowledge of Physiology with an adequate diagnosis and treatment.
MEDICAL HISTOLOGY	MD 104	Understanding and mastering the basic knowledge of Histology will locate, identify, understand and make the interrelationship between the microscopic structures of the cells, tissues and organs that make up the different systems of the human body.
THOUGHT AND LANGUAGE	PC 114	Develop reflective thinking through constant and integrative reading, writing and oral expression, assuming these as thinking skills and as critical activities, in which what is written, what is read and what is spoken is evaluated; seeking clarity, certainty, relevance, depth, breadth, logic, meaning, and fairness.
SECOND LANGUAGE I	ID I	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ANATOMO PHYSIOLOGY WITH CLINICAL FOCUS	MD 116	Understand and master the fundamentals of the morphology and normal functioning of the organism. Likewise, analyze the functional alterations that occur in the disease and that use scientific reasoning with a critical attitude that correlates the knowledge of anatomy and physiology with a clinical approach for an adequate diagnosis and treatment.
MOLECULAR AND CELLULAR BIOLOGY	MD 110	Understand the structure, organization, compartmentalization, molecular and cellular complexity necessary to support vital phenomena both at the level of single-celled organisms and in the integration of organisms,

		using scientific reasoning and a critical attitude that correlates the knowledge of cell and molecular biology with an adequate diagnosis and treatment that allows them to understand the processes of cellular regulation and gene expression.
HUMAN EMBRYOLOGY	**MD 118**	Analyze and schematize the origin, growth and development of the human being, the cause of the processes involved in normal ontogeny and how some cases of medical interest are altered, in the light of the findings and techniques of developmental biology.
GENERAL STUDIES III	**ESTGIII**	
PHARMACOLOGY I	**MD 114**	Build pharmacological knowledge on the general principles of action of drugs and the integration of knowledge, using reasoning and critical attitude that correlates knowledge of Pharmacology with an adequate diagnosis and treatment.
MEDICAL PRACTICE FUNDAMENTALS	**MD 120**	Understand, develop and master the fundamentals of clinical thinking when approaching the patient, in their initial contact, interrogation, physical examination, based on scientific reasoning, ethics and a critical attitude, which correlates their knowledge with the diagnosis, adequate treatment and prognosis of the pathologies they will face, in their daily practice.
MICROBIOLOGY AND PARASITOLOGY	**MD 112**	Master the basic knowledge of Microbiology and Parasitology, employ a scientific, logical, systematic approach when applying the appropriate technology, to recover and identify microorganisms (bacteria, viruses and fungi) of clinical interest in our environment and relate in a critical way, the diagnosis and treatment with the type of infection.
SECOND LANGUAGE II	**ID II**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
GENERAL SURGERY I	**MD 137**	Know, develop and master the fundamentals of Basic Surgical Education, as well as analyze and integrate the appropriate techniques. Use scientific reasoning and a critical attitude that correlates knowledge of surgical diseases with proper diagnosis and treatment.
PROFESSIONAL WRITING	**PC 214**	Write complex argumentative speeches, applying research skills and text structuring to prepare documents for their professions, considering the methodological conventions and intellectual standards designed for this purpose.

PHARMACOLOGY II	**MD 130**	Apply the general principles of Pharmacology in current therapeutics by evaluating the choice and determining the use of drugs according to the system of the organism on which they act predominantly, as well as their main therapeutic indications, pharmacological interactions, contraindications and adverse effects.
HUMAN GENETICS	**MD 133**	Master the general principles of Human Genetics and distinguish the principles that govern the inheritance of characters between generations, as well as the causes of genetic variation between living beings, the genetic component in human pathology, likewise, determine its importance in the future of medicine.
OBSTETRICS GYNECOLOGY I	**MD 140**	Know, develop and master the basic principles of Gynecology and Obstetrics and interpersonal and communication skills that favor the best interaction between the doctor and the patient, using scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the appropriate diagnosis, treatment and rehabilitation.
INTERNAL MEDICINE I (GASTROENTEROLOGY AND INFECTOLOGY)	**MD 131**	Develop, understand and master the fundamentals of knowledge of Internal Medicine in Gastroenterology and Infectology. Likewise, analyze the functional alterations that occur in the disease and use scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the adequate diagnosis, treatment and rehabilitation.
NUTRITION AND METABOLISM	**MD 135**	Recognize the importance of food as a provider of nutrients, as well as the requirement, the way in which they are assimilated by the human body, their physiological and metabolic function; appreciate Clinical Nutrition as a balance in the actions of prevention, diagnosis and treatment of nutritional disorders in different states of health and disease.
SECOND LANGUAGE III	**ID III**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MEDICAL ANTHROPOLOGY	**MD 217**	Examine the cultural and social factors that influence and determine all historical phenomena related to health and disease.
GENERAL SURGERY II (GASTRIC SURGERY AND UROLOGY)	**MD 213**	To know, integrate, develop and master the knowledge of the main surgical conditions of the digestive and urological system, as well as to be able to establish the anatomical and pathophysiological correlation that merit surgical treatment, respecting the principles and surgical times.

PHARMACOLOGY III	MD 200	Analyze the patient's drug therapy through a global vision of the drug with respect to its proper use in the context of health care, using scientific reasoning and a critical attitude that correlates the knowledge of Pharmacotherapy with an adequate diagnosis and treatment.
OBSTETRICS GYNECOLOGY II	MD 215	Know, integrate and master the principles of pathology in Gynecology and Obstetrics and develop interpersonal and communication skills that favor the best interaction between the doctor and the patient, using scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the appropriate diagnosis, treatment and rehabilitation.
INTERNAL MEDICINE II (HEMATOLOGY AND IMMUNOLOGY)	MD 202	To analyze the patient's drug therapy through a global vision of the drug with respect to its proper use in the context of health care, using scientific reasoning and a critical attitude that correlates the knowledge of Pharmacotherapy with an adequate diagnosis and treatment.
PEDIATRICS I	MD 211	Understand, develop and master the fundamentals for pediatric patient assessment. Likewise, the student will analyze the functional alterations that occur in the pediatric disease and will use scientific reasoning and critical attitude to correlate the knowledge of Pediatrics in General with an adequate diagnosis and treatment.
PUBLIC HEALTH AND EPIDEMIOLOGY	MD 219	Identify, characterize and evaluate public health and epidemiology problems from a multidisciplinary aspect.
DECISION ANALYSIS I	MD 221	Develop in the physician clinical skills required in their professional activity, through training in the ideal scenarios, as well as the development of a critical capacity, which allows them to give a timely and quality response to the health needs of the population, supported by evidence-based medicine and/or problem-based learning and translate it into a mental map.
GENERAL SURGERY III (OPHTHALMOLOGY AND OTOLARYNGOLOGY)	MD 227	Master the fundamentals of knowledge of Ophthalmology and Otolaryngology. To analyze the functional alterations that present in the diseases related to these areas. Through scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the appropriate diagnosis, treatment and rehabilitation.
OBSTETRICS GYNECOLOGY III	MD 229	General knowledge, skills, abilities and/or tools necessary to identify and regulate diagnostic, treatment and referral criteria for patients with advanced obstetric obstetrics problems.

FAMILY AND COMMUNITY MEDICINE	MD 232	Analyze the theory of the family and the social community in the environment, seeking to integrate both concepts, to obtain an attitude of social and professional commitment to promote, preserve, improve, restore and rehabilitate health in the human being in his daily work.
INTERNAL MEDICINE III (NEUROLOGY AND ENDOCRINOLOGY)	MD 223	Understand, integrate and master the fundamentals of knowledge of Internal Medicine in Neurology and Endocrinology. Likewise, the student must analyze the functional alterations that occur in the disease and use scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the adequate diagnosis, treatment and rehabilitation.
PEDIATRICS II	MD 225	Master the fundamentals of the assessment of pediatric syndromes. Likewise, analyze the functional alterations that occur in pediatric disease and use scientific reasoning and a critical attitude that correlates the knowledge of General Pediatrics with an adequate diagnosis and treatment.
MEDICAL PSYCHOLOGY	MD 230	Analyze the origin, development and principles that support medical psychology as an important part in the patient doctor relationship and the way in which the student should make the relationship with their organic problem.
HEALTH MANAGEMENT	MD 247	Learn the theory of the administrative process, defining its advantages and weaknesses, differentiating some theoretical alternatives, which allow to know the administrative processes as a key to the proper functioning of health services.
DECISION ANALYSIS II	MD 239	Strengthen clinical aptitude in the different medical areas, supported by the clinical and research tools that were generated in the previous subject. Facilitate the student to develop with evidence-based medicine their clinical aptitude so that according to their academic level they support the diagnosis, request for studies as well as treatment based on real clinical cases.
BIOETHICS IN MEDICAL PRACTICE	MD 249	Analyze the ethical values and legal norms that can be applied to situations in health and life, extolling their importance in the professional practice of the doctor, safeguarding the dignity and rights of people to their care
IV GENERAL SURGERY (PLASTIC AND NEUROSURGERY)	MD 245	Master the fundamentals of knowledge of Reconstructive Plastic Surgery and Neurology. Likewise, to analyze the functional alterations that occur in the disease. Use scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the proper diagnosis, treatment and rehabilitation.

GENERAL STUDIES IV	ESTGIV	
INTERNAL MEDICINE IV (CARDIOLOGY AND PULMONOLOGY)	MD 241	Master the fundamentals of knowledge of Internal Medicine in Cardiology and Pulmonology. Likewise, to analyze the functional alterations that occur in the disease. Use scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the proper diagnosis, treatment and rehabilitation.
LEGAL AND FORENSIC MEDICINE	MD 252	Understand and master the fundamentals of the knowledge of Legal Medicine within the complementary areas to the common core in Medicine. Understand the fundamentals of the development of your Profession, from the legan perspective in general, not only criminal, and in turn have the existing elements in forensic medicine.
PEDIATRICS AND ADOLESCENT MEDICINE	MD 243	Master the fundamentals of the specialized aspects in the management of the pediatric patient and adolescent medicine. Likewise, to analyze the functional alterations that occur in pediatric disease and use scientific reasoning and a critical attitude that correlates the knowledge of Specialized and Adolescent Pediatrics with an adequate diagnosis and treatment.
QUALITY IN HEALTH SERVICES	MD 311	Develop an approach to the planning and implementation of marketing and quality strategies in healthcare companies, as well as understand service organizations on their own terms and then adjust marketing and quality goals and strategies in health services accordingly.
GENERAL STUDIES V (CO-CURRICULAR)	ESTGV	
EMERGENCY MEDICINE	MD 303	Master the fundamentals of Emergency Medicine as an integrating element and use scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the proper diagnosis, treatment and rehabilitation.
OCCUPATIONAL MEDICINE	MD 315	Identify health risk factors derived from the performance of the work: diagnose pathological manifestations that are a consequence of the performance of the different work activities; apply appropriate preventive measures and know the current labor legislation.
INTERNAL MEDICINE V (RHEUMATOLO	MD 305	Master the fundamentals of Internal Medicine in Rheumatology and Dermatology. Analyze the functional alterations that occur in the disease and use reasoning and a

GY AND DERMATOLOGY)		critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the appropriate diagnosis, treatment and rehabilitation.
GRADUATION PROJECT I	MD498	Validate the ability to integrate theoretical and practical knowledge acquired for the resolution of a specific problem within the chosen orientation.
PSYCHIATRY	MD 317	Master the fundamentals of Psychiatry. Analyze the functional alterations that occur in mental illness and use scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the appropriate diagnosis, treatment and rehabilitation.
TRAUMA AND ORTHOPEDICS	MD 309	Master the fundamentals of Trauma and Orthopedics. Analyze the functional alterations that occur in the musculoskeletal or neuromuscular system and use scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the appropriate diagnosis, treatment and rehabilitation.
PATHOLOGY	MD 322	Have the interest and skills necessary to master the fundamentals of knowledge of Morphology in Pathological Anatomy. Likewise, analyze the functional alterations that occur in the disease and to use scientific reasoning and a critical attitude that correlates anatomoclinic knowledge and pathophysiology, prevention or failing that adequate diagnosis, treatment and rehabilitation.
GERIATRICS	MD 328	Master the fundamentals of knowledge of Geriatrics. Analyze the functional alterations that occur in the disease and use scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the appropriate diagnosis, treatment and rehabilitation.
IMAGING	MD 333	Master the fundamentals of the knowledge of Imaging. Likewise, analyze the functional alterations that occur in the disease and use scientific reasoning and a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the adequate diagnosis, treatment and rehabilitation.
CRITICAL MEDICINE AND ANESTHESIOLO GY	MD 324	Master the fundamentals of knowledge of Critical Medicine and Anesthesiology. Analyze the functional alterations that occur in the disease and use scientific reasoning and a critical attitude that correlate the knowledge of pathophysiology, prevention or failing that adequate diagnosis, treatment and rehabilitation.

INTERNAL MEDICINE VI (NEPHROLOGY AND ONCOLOGY)	MD 326	Master the fundamentals of knowledge of Nephrology and Oncology. To analyze the functional alterations that occur in the disease.
GRADUATION PROJECT II	MD 499	Validate the ability to integrate theoretical-practical knowledge acquired by the student throughout the degree, for the resolution of a specific problem within the chosen orientation.
ROTATION I UNDERGRADUATE INTERNSHIP	MD 336	Master the fundamentals of hospital practice and that in its rotations in Community and in Emergencies, integrate the pathophysiology, prevention or failing that the appropriate diagnosis, treatment and rehabilitation.
ROTATION II UNDERGRADUATE INTERNSHIP	MD 401	Master the fundamentals of high-level hospital practice and use scientific rationing and a critical attitude that correlates the knowledge of Internal Medicine, Obstetrics Gynecology, Pediatrics, General Surgery, as the main trunk and that in its rotations in Community and in Emergencies, integrates pathophysiology, prevention or failing that adequate diagnosis, treatment and rehabilitation.

LICENCIATURA IN NANOTECHNOLOGY AND MOLECULAR ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO NANOSCIENCE AND NANOTECHNOLOGY	LNM1011	At the end of the course, the student will identify the field of nanoscience and nanotechnology, through multidisciplinary, understanding some of the challenges in the development of this area and some of the existing applications.
GENERAL CHEMISTRY LAB	LQU1021	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.

FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
INORGANIC CHEMISTRY I LAB	LQU1041	At the end of the course, the student will relate the structure of an inorganic compound with its chemical and physical properties; identify methods of preparation of inorganic compounds.
ORGANIC CHEMISTRY LAB I	LQU1061	At the end of the course, the student will apply the knowledge acquired to assemble equipment used in organic chemistry and perform synthesis, separation, purification and identification operations; students will use personal safety regulations, good laboratory practices and handling of hazardous waste.

FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INORGANIC CHEMISTRY I	LQU1031	At the end of the course, the student will know and handle correctly and precisely the concepts of chemical bonding, electronegativity, molecular symmetry and atomic structure of ionic and molecular solids, as well as Pearson's acid-base theory and the periodic properties of metals.
ORGANIC CHEMISTRY I	LQU1051	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly manage nomenclature, stereochemistry, structure and reactivity in acid-base processes.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
MATERIALS SCIENCE	MEC2011	At the end of the course, the student will master the knowledge of properties, structure and materials derived from different chemical compounds, from the point of view of the chemical sciences and considering their potential technological application as nanostructured materials, understand the relationship between structure and molecular properties and those at the macroscopic level.
PHYSICOCHEMISTRY I	LQU2011	At the end of the course, the student will interpret the various processes of energy exchange, through the proper use of the principles of thermodynamics, calculating reaction heat and refer to the standard states, applying spontaneity and equilibrium criteria to various chemical and biological systems, using the concept of chemical potential to interpret physicochemical phenomena.
PHYSICOCHEMISTRY I LAB	LQU2021	At the end of the course, the student will generate and interpret graphs to obtain information on thermodynamic parameters and evaluate the accuracy of their results based on the error analysis of the same, recognize that physicochemistry is a multidisciplinary subject.
ORGANIC CHEMISTRY LAB II	LQU2041	At the end of the course, the student will apply the knowledge acquired to implement an organic chemistry reaction; implement physical and instrumental methods for the identification of an organic compound, observing good laboratory practices and handling of dangerous reagents.

FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MECHANICS	FIS2011	At the end of the course, the student will analyze and apply Newton's laws as well as the concepts of conservation of momentum and energy, in addition, to show the ability to learn and update autonomously their knowledge in the modeling of physical phenomena using the concept of energy.
ORGANIC CHEMISTRY II	LQU2031	At the end of the course, the student will describe the different reaction mechanisms of organic compounds and explain the relationship between the properties and transformations of the different organic functional groups.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
ELECTRONICS I	ELE2011	At the end of the course, the student will apply the definitions and basic concepts of electronics, recognize the basic techniques of analysis of resistive circuits to direct current; meshes, nodes, Thevenin's theorem, Norton, superposition, use the main measuring instruments such as oscilloscope, generator and sources and know the fundamentals of circuit simulation using spice.

NANOMATERIALS LAB I	LNM2021	At the end of the course, the student will understand the relationship between structure and molecular properties and those existing at the macroscopic level; skillfully handle laboratory materials and chemicals and follow safety rules when handling materials and reagents; explain some of the most common experimental techniques for the preparation and physicochemical characterization of micro- and nanostructured materials; evaluate the catalytic, photochemical, electrochemical, sensor, biomedical applications, among others, of the prepared materials according to their physical and chemical properties; assess the need to use some of the advanced instrumental material characterization techniques for a particular material.
ANALYTICAL CHEMISTRY LAB	LQU2061	At the end of the course, the student will manipulate the material and laboratory equipment used in analytical chemistry, knowing the chemical analysis techniques commonly used in quality control laboratories.
NANOMATERIALS I	LNM2011	At the end of the course, the student will establish a classification of nanomaterials based on composition and form, know the different methods of synthesis both chemical and physical, characterize by spectroscopic and microscopic methods the different nanomaterials.
ANALYTICAL CHEMISTRY	LQU2051	At the end of the course, the student will identify the principles of analytical chemistry and apply them to problem solving in chemistry and related disciplines such as the biological and health sciences.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ELECTROMAGNETISM	FIS3011	At the end of the course, the student will understand the electrical and magnetic phenomena, analyze everyday situations to abstract the phenomena studied and solve problems related to them. In addition, they will translate the studied processes into the language of mathematics to quantify them.
EXPERIMENTAL ELECTROMAGNETISM	LFA3011	At the end of the course, the student will apply their knowledge in electromagnetism, proposing free practices to apply and understand electrical and magnetic phenomena in experimental situations and understand electrical and magnetic phenomena, as well as analyze experimental situations and know their applications.

ELECTRONICS II	ELE2021	At the end of the course, the student will recognize the different measurement systems from the use of transducers used in electronics, both analog and digital, oriented to the measurement of a physical magnitude, evaluate the characteristics and performance of the measurement systems and design systems tailored to the needs of a specific problem; recognize the different types of sensors classified by the physical principle on which they are based and the trends of new devices in the field.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
PHYSICOCHEMISTRY II	LQU3031	At the end of the course, the student will analyze in detail the reaction speeds and the evaluation of kinetic parameters, know and interpret electrochemical phenomena, as well as understand the nature and applications of colloidal chemistry.
PHYSICOCHEMISTRY II LAB	LQU3041	At the end of the course, the student will apply experimental techniques to the study of the reaction kinetics of homogeneous and heterogeneous systems.
NANOMATERIALS II	LNM3011	At the end of the course, the student will understand the scope and limitations of the application of unimolecular, supermolecular and supramolecular systems to the construction and application of molecular machines, molecular sensors and devices for molecular electronics, apply their knowledge of characterization techniques and chemical synthesis design, implement and propose procedures for obtaining useful molecular materials for advanced technological applications , recognize the most important characteristics of biomaterials, their preparation methods and applications and acquire important conceptual skills in applications of nanomaterials in medicine and the toxicology of nanostructured materials.
MODERN PHYSICS	LFA3051	At the end of the course, the student will analyze the physics of the twentieth century, emphasizing the difficulties with classical physics that gave rise to the theory of relativity and quantum mechanics, handle quantum phenomena, and solve the corresponding problems.

EXPERIMENTAL MODERN PHYSICS	LFA3061	At the end of the course, the student will master an overview of the experimental background of modern physics from an analysis of the difficulties of classical physics and handle the experimental methods of modern physics, as well as the techniques of computerized monitoring and processing of experimental data.
ADVANCED PHYSICOCHEMISTRY	LQU4071	At the end of the course, the student will correctly understand and handle the basic terms and concepts of interfaces and surface physicochemistry, analyze the different interactions between a substrate and adsorbate, emphasizing adsorption models based on the morphological characteristics of the surface, understand the various methods to analyze the geometric characteristics of surfaces , the structural arrangement and composition of the surfaces.
NANOBIOLOGY LAB	LNM3031	At the end of the course, the student will perform basic laboratory tests applied to the research of biomolecules, and the use and effect of nanomaterials in vitro and in vivo.
NANOMATERIALS LAB II	LNM3051	At the end of the course, the student will correctly and properly use laboratory materials and chemical substances in the study and design of nanostructured materials and observe the safety rules; list some of the more general methods of preparation and physical characterization of chemical sensors; build devices and apply basic techniques for the evaluation of the sensor capacity of a material; recognize the different physicochemical techniques of surface characterization and recognize the importance of surface study in the preparation of materials and the evaluation of their applications.
NANOBIOLOGY	LNM3021	At the end of the course, the student will define each of the different important biomolecules in the cell and cellular biostructures that exist in nature with the possibility of being used as nanostructures and propose nanostructured models of biological type.
MATERIALS NANOTECHNOLOGY	LNM3041	At the end of the course, the student will visualize the importance of nanotechnology, specifically, the technology of nanomaterials in specific and important applications of everyday life.
INSTRUMENTAL ANALYSIS	LQU4031	At the end of the course, the student will efficiently use the various instrumental techniques of analysis, to establish an adequate methodology for the development of a complete chemical analysis and to apply the necessary criteria to correctly interpret the experimental results obtained using physicochemical analysis methods.

INSTRUMENTAL ANALYSIS LAB	**LQU4041**	At the end of the course, the student will identify and quantify the analysis of a sample through the physicochemical treatment and the instrumental analysis of the same.
INORGANIC CHEMISTRY LAB II	**LQU3071**	At the end of the course, the student will explain the relationship of the structure of an inorganic compound with its reactivity and will enunciate the main steps of the methods of synthesis of complexes, organometallic compounds and metal clusters.
NANOTECHNOLOGY AND SOCIETY	**LNM4021**	At the end of the course, the student will analyze the impact of nanoscience and nanotechnology on society, evaluating the risks and benefits of these technologies, evaluate the main axes of debate on the impact and meaning of nanotechnology in society, such as: productivity and equity, quality of life, future social scenarios , future economic scenarios, converging technologies, national security, space exploration, ethics, governance, risk and uncertainty, public policy, legal and international aspects, interaction with the public, education and human development.
PROFESSIONAL PRACTICE I	**LNM4011**	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different Nanotechnology areas and solve situations of adaptation to a new work environment.
INORGANIC CHEMISTRY II	**LQU3061**	At the end of the course, the student will correctly and accurately handle the fundamental concepts of transition metal coordination chemistry, dative bonding, electronic theories, organometallic compounds, periodic properties of elements of the main group and rules of stabilization of atomic clusters.
SELECT TOPICS I	**TNM4011**	At the end of the course, the student will apply and relate the knowledge in a nanotechnology topic from a current point of view.
EXPERIMENTAL OPTICS	**LFA3041**	At the end of the course, the student will experimentally handle optical phenomena such as interference, diffraction, reflection and refraction of light waves and solve corresponding problems, to translate the processes studied into the language of mathematics to quantify them and know the applications.
PROFESSIONAL PRACTICE II	**LNM4031**	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different Nanotechnology areas and solve situations of adaptation to a new work environment.

SELECT TOPICS II	TNM4021	At the end of the course, the student will apply and relate the knowledge in a nanotechnology topic from a current point of view.
SELECT TOPICS III	TNM4031	At the end of the course, the student will apply and relate the knowledge in a nanotechnology topic from a current point of view.

LICENCIATURA IN PHARMACEUTICAL SCIENCES

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO HEALTH SCIENCES	LCF1011	At the end of the course, the student will have a general and integrative vision of various conceptual and methodological elements to study the human being in a state of health and in a state of disease, the scientific bases of the clinical diagnosis and its therapeutics, the relationship between health professionals and patients, the different care frameworks, disease prevention and health promotion.
GENERAL CHEMISTRY LAB	LQU1021	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems
GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.

QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
ANALYTICAL CHEMISTRY LAB	LQU2061	At the end of the course, the student will manipulate the material and laboratory equipment used in Analytical Chemistry, knowing the chemical analysis techniques commonly used in quality control laboratories.
ORGANIC CHEMISTRY LAB I	LQU1061	At the end of the course, the student will apply the knowledge acquired to assemble equipment used in organic chemistry and perform synthesis, separation, purification and identification operations; students will use personal safety regulations, good laboratory practices and handling of hazardous waste.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ANALYTICAL CHEMISTRY	LQU2051	At the end of the course, the student will identify the principles of analytical chemistry and apply them to problem solving in chemistry and related disciplines such as the biological and health sciences.
ORGANIC CHEMISTRY I	LQU1051	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly manage nomenclature, stereochemistry, structure and reactivity in acid-base processes.
BIOCHEMISTRY I	LQU2071	At the end of the course, the student will correctly describe the structure, the physicochemical characteristics, the function and interactions of the biomolecules, as well as the methodology used for their study.
PHYSICOCHEMISTRY I	LQU2011	At the end of the course, the student will interpret the various processes of energy exchange, through the proper use of the principles of thermodynamics,

		calculating reaction heat and refer to the standard states, applying spontaneity and equilibrium criteria to various chemical and biological systems, using the concept of chemical potential to interpret physicochemical phenomena.
PHYSICOCHEMISTRY I LAB	**LQU2021**	At the end of the course, the student will generate and interpret graphs to obtain information on thermodynamic parameters and evaluate the accuracy of their results based on the error analysis of the same, recognize that physicochemistry is a multidisciplinary subject.
ORGANIC CHEMISTRY LAB II	**LQU2041**	At the end of the course, the student will apply the knowledge acquired to implement an organic chemistry reaction; implement physical and instrumental methods for the identification of an organic compound, observing good laboratory practices and handling of dangerous reagents.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ORGANIC CHEMISTRY II	**LQU2031**	At the end of the course, the student will describe the different reaction mechanisms of organic compounds and explain the relationship between the properties and transformations of the different organic functional groups.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
CELL BIOLOGY	**LBI2051**	At the end of the course, the student will understand the structure, organization, compartmentalization and cellular complexity necessary to support the vital phenomena both at the level of single-celled organisms and in the integration into multicellular organisms.
BIOCHEMISTRY II	**LQU3101**	At the end of the course, the student will correctly describe the metabolic pathways, their regulation, their

		interrelations and the organs or tissues in which they take place; analyze metabolism in normal physiological situations.
PHARMACOGNOSY	**LCF2021**	At the end of the course, the student will use the methods of extraction, separation and purification; identify natural substances as well as their pharmaceutical uses; understand all the stages of transformation that a plant undergoes until it becomes a medicine, as well as the factors that influence the process.
GENERAL PHARMACOLOGY	**LCF2011**	At the end of the course, the student will identify the pharmacological bases of the current therapeutics and express themselves correctly using the specific terminology of pharmacology; understand the important current challenges of pharmacology in the discovery of new drugs through the knowledge of their behavior in the body and the circumstances that modify the response to pharmacological treatment.
MICROBIOLOGY LAB	**LBI2091**	At the end of the course, the student will work in sterile conditions and develop the necessary laboratory skills to manipulate, grow and preserve microbiological specimens.
MICROBIOLOGY	**LBI2081**	At the end of the course, the student will correctly explain the structure, metabolism and growth conditions of microorganisms, as well as describe the techniques for the culture and quantification of microorganisms and select the most appropriate methods for their control.
ANATOMY AND PHYSIOLOGY	**LBC3021**	At the end of the course, the student will interpret the physiological processes of the main systems of the human body.
MOLECULAR BIOLOGY	**LBI3021**	At the end of the course, the student will correctly describe, in writing, the relationship between structure and function of nucleic acids, the molecular mechanisms involved in the flow of information and the complex control of the flow of information in prokaryotes and eukaryotes; able to solve problems in their area of study by applying molecular biology tools.

ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
CLINICAL PHARMACOLOGY	LCF3021	At the end of the course, the student will describe the pharmacokinetic and pharmacodynamic characteristics of the main groups of drugs; apply the general principles of pharmacology in current therapeutics by evaluating the choice and use of drugs depending on the system of the organism on which they act predominantly, as well as their main therapeutic indications, drug interactions, contraindications and adverse effects.
PHYSICOCHEMISTRY II	LQU3031	At the end of the course, the student will analyze in detail the reaction speeds and the evaluation of kinetic parameters, know and interpret electrochemical phenomena, as well as understand the nature and applications of colloidal chemistry.
PHARMACEUTICAL SCIENCES LAB	LCF3041	At the end of the course, the student will quantify pharmacodynamic and pharmacokinetic phenomena and processes applying the basic principles of pharmacology and handling experimental animals, from the processing, analysis and interpretation of experimental data of plasma concentration versus time after the administration of a drug of systemic action; apply the basic concepts of biopharmacy and pharmaceutical technology in the formulation, manufacture and evaluation of solid and semi-solid pharmaceutical forms, also identifying the quality control tests applied in the pharmaceutical industry to this type of products.
PHARMACEUTICAL TECHNOLOGY	LCF3031	At the end of the course, the student will master the conceptual and operational management of the different unitary operations involved in the manufacture of solid pharmaceutical forms, will be able to choose the most suitable equipment or equipment for the production of a solid pharmaceutical form and know the quality tests that these products must meet according to the Mexican laws; master the conceptual and operational management of the different ingredients used to manufacture solid pharmaceutical

		forms to choose the most appropriate for a given formula.
BIOPHARMACY AND PHARMACOKINETICS	**LCF3051**	At the end of the course, the student will describe the different routes of administration in relation to the organs involved and the relevant factors in the absorption of medicines; mathematically interpret the temporal evolution of the medicinal product in the body both at the plasma level and at the level of the different organs or compartments; establish the relationship between the physicochemical characteristics of the drug, the pharmaceutical form in which it is presented and its interaction with the body, as well as calculate the most important pharmacokinetic parameters for a patient and a particular drug, so that this knowledge can be used in the individualization of pharmacotherapies for each patient and in the prediction of changes in the most relevant pharmacokinetic parameters in patients with certain conditions tions of disease or treated with specific groups of drugs.
INFERENTIAL STATISTICS	**MAT2041**	At the end of the course, the student will use the tools of inferential statistics and apply parametric and nonparametric tests in the systematic analysis of data investigated in the social sciences
PHYSIOPATHOLOGY	**LBC3071**	At the end of the course, the student will interpret the basic mechanisms of the pathological processes shared by different diseases and the specific mechanisms involved in the production and clinical manifestations of these diseases.
GENETICS	**LBI3121**	At the end of the course, the student will explain the principles that govern heredity, as well as the causes of genetic variation of living beings.
IMMUNOLOGY	**LBC3061**	At the end of the course, the student will describe and analyze the structure and function of the molecules and cells involved in the immune response in humans and analyze the conceptual and operational management of the main types of immune response, stages, cells and tissues.

DIAGNOSTIC MEDICAL MICROBIOLOGY LAB	LCF3071	At the end of the course, the student will isolate and systematically identify microorganisms from biological and food samples.
DIAGNOSTIC MEDICAL MICROBIOLOGY	LCF3061	At the end of the course, the student will apply the fundamentals of Microbiology and parasitology in the identification of microorganisms and parasites involved in infectious processes that affect man and in the interpretation of the results of the main microbiological diagnostic tests; select effective antimicrobial treatments based on knowledge of the sources, transmission mechanisms and susceptible population of infectious diseases, as well as the mechanisms of action and resistance of antimicrobial agents and the microbiological bases of treatment.
INSTRUMENTAL ANALYSIS	LQU4031	At the end of the course, the student will efficiently use the various instrumental techniques of analysis, to establish an adequate methodology for the development of a complete chemical analysis and to apply the necessary criteria to correctly interpret the experimental results obtained using physicochemical analysis methods.
EXPERIMENTAL BIOLOGY	LBI3031	At the end of the course, the student will perform laboratory tests applied to research in chemical biological sciences and has the skill for the management and application of analytical techniques for the qualitative and quantitative determination of biomolecules and experimental parameters in in vivo and in vitro models.
INSTRUMENTAL ANALYSIS LAB	LQU4041	At the end of the course, the student will identify and quantify the analysis of a sample through the physicochemical treatment and the instrumental analysis of the same.
PROFESSIONAL PRACTICE I	LCF4021	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different pharmaceutical sciences areas and solve situations of adaptation to a new work environment.

PHARMACEUTICAL TECHNOLOGY II	**LCF4011**	At the end of the course, the student will know and understand the thermodynamic fundamentals associated with the solubility, kinetics, behavior of solutions and interface to apply them in the prediction, formulation, manufacture and quality control of liquid pharmaceutical forms, dispersed systems, therapeutic systems of modified release, conventional cosmetic forms and other pharmaceutical products; know the correct preparation, dispensing, methods of administration and international parameters of quality control of the most common intravenous mixtures manufactured by the industry, as well as extemporaneously in health institutions where the pharmacist participates in the patient care team.
SELECT TOPICS I	**TCF4011**	At the end of the course, the student will apply and relate the knowledge in a pharmaceutical sciences topic from a current point of view.
SELECT TOPICS II	**TCF4021**	At the end of the course, the student will apply and relate the knowledge in a pharmaceutical sciences topic from a current point of view.
DEVELOPMENT OF PHARMACEUTICAL PRODUCTS	**LCF4031**	At the end of the course, the student will propose methodologies and select tools to develop a drug, cosmetic, herbal remedy or biotechnological product, from the selection of the most appropriate pharmaceutical forms, the components of the formula, the process and manufacturing conditions, the specifications and tests of technological performance, as well as the quality characteristics and control factors which will make it possible to guarantee the quality of the processes and final products; know the minimum requirements requested by the health authorities for the conduct of clinical trials, for the registration of new drugs and pharmaceutical products and for the conduct of bioequivalence studies.
HOSPITAL AND COMMUNITY PHARMACY	**LCF4051**	At the end of the course, the student will organize and direct pharmaceutical services in hospital institutions and in community pharmacies participating as members of the team to the health care of patients, develop their functions in pharmaceutical services and exercise pharmaceutical care with quality and in accordance with the current trends of the pharmaceutical profession in our country, to achieve the rational use of medicines and improvement in patient care.

PHARMACEUTICAL DEVELOPMENT LAB	**LCF4041**	At the end of the course, the student will integrate knowledge and skills in pharmacology, pharmaceutical technology, biopharmaceuticals and pharmacokinetics, to propose and implement feasible strategies to obtain a drug, cosmetic, herbal remedy or biotechnological product, designing experiments for the development of each of the phases that make up the development of a new pharmaceutical product, from their design, synthesis or procurement, to their release to the market, to apply biopharmaceutical knowledge in the formulation, quality control and administration of medicinal products, in the design of experiments for the estimation of pharmacokinetic parameters in humans and animals, in the analysis of the usefulness of pharmacokinetic parameters in the evaluation of the efficiency of medicinal products and in the design of bioequivalence studies to determine interchangeability of medicines.
PROFESSIONAL PRACTICE II	**LCF4071**	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different pharmaceutical sciences areas and solve situations of adaptation to a new work environment.
PUBLIC HEALTH AND EPIDEMIOLOGY	**LCN3031**	At the end of the course, the student will identify, characterize and evaluate public health and epidemiology problems from a multidisciplinary aspect.
SELECT TOPICS III	**TCF4031**	At the end of the course, the student will apply and relate the knowledge in a pharmaceutical sciences topic from a current point of view.
TOXICOLOGY	**LBC4071**	At the end of the course, the student will classify the harmful substances to which living organisms are exposed in the environment based on their origin, their degree of toxicity, their toxicokinetics and their toxicodynamics; recognize the national and international regulations governing toxicology in the various areas of professional development; recognize the methodology involved in the identification, analysis and clinical consequences of the action of toxic compounds of very varied origins to which humans may be exposed to prevent and treat poisonings.

LICENCIATURA IN CHEMISTRY

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
FOREIGN LANGUAGE II	LEX012 1	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of the artifact and its conservation.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.

GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will properly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium
GENERAL CHEMISTRY LAB	LQU1021	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
INORGANIC CHEMISTRY I	LQU1031	At the end of the course. the student will know and handle correctly and precisely the concepts of chemical bonding, electronegativity, molecular symmetry and atomic structure of ionic and molecular solids, as well as Pearson's acid-base theory and the periodic properties of metals.
ORGANIC CHEMISTRY I	LQU1051	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly manage the nomenclature, stereochemistry, structure and reactivity in acid-base processes
ORGANIC CHEMISTRY LAB I	LQU1061	At the end of the course, the student will apply the knowledge acquired to assemble equipment used in organic chemistry and perform synthesis, separation, purification and identification operations; students will use personal safety regulations, good laboratory practices and handling of hazardous waste.
LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, manage the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.

CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems
MECHANICS	FIS2011	At the end of the course, the student will analyze and apply Newton's laws as well as the concepts of conservation of momentum and energy, in addition, to show the ability to learn and update autonomously their knowledge in the modeling of physical phenomena using the concept of energy.
PHYSICOCHEMISTRY I	LQU2011	At the end of the course, the student will interpret the various processes of energy exchange, through the proper use of the principles of thermodynamics, calculating reaction heat and refer to the standard states, applying spontaneity and equilibrium criteria to various chemical and biological systems, using the concept of chemical potential to interpret physicochemical phenomena.
PHYSICOCHEMISTRY I LAB	LQU2021	At the end of the course, the student will generate and interpret r graphs to obtain information on thermodynamic parameters and evaluate the accuracy of their results based on the error analysis of the same. Reconocer that physicochemistry is a multidisciplinary subject
ORGANIC CHEMISTRY II	LQU203	Term of the course, the student will describe the different reaction mechanisms of organic compounds and explain the relationship between the properties and transformations of different organic functional groups.
ORGANIC CHEMISTRY LAB II	LQU2041	At the end of the course, the student will apply the knowledge acquired to implement an organic chemistry reaction; implement physical and instrumental methods for the identification of an organic compound, observing good laboratory practices and handling of dangerous reagents.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and to apply the differential and integral calculation of several variables in the solution of problems and in decision-making
MATTER BALANCE	LQI1021	At the end of the course, the student will develop a clear and systematic methodology to formulate and solve the scope of matter for different processes.
ANALYTICAL CHEMISTRY	LQU2051	At the end of the course, the student will identify the principles of Analytical Chemistry and apply them to problem solving in chemistry and related disciplines such as the biological and health sciences.

ANALYTICAL CHEMISTRY LAB	LQU2061	At the end of the course, the student will manipulate the material and laboratory equipment used in Analytical Chemistry, knowing the chemical analysis techniques commonly used in quality control laboratories.
BIOCHEMISTRY I	LQU2071	At the end of the course, the student will correctly describe the structure, the physicochemical characteristics and interactions of the biomolecules, as well as the methodology used for their study.
INFERENTIAL STATISTICS	MAT2041	At the end of the course, the student will use the tools of inferential statistics and apply the parametric and nonparametric tests in the systematic analysis of data investigated in the social sciences.
ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to raise and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve initial value problems for linear differential equations and for integro-differential equations.
ELECTROMAGNETISM	FIS3011	At the end of the course, the student will understand the electrical and magnetic phenomena, analyze everyday situations to abstract the phenomena studied and solve problems related to them. In addition, they will translate the studied processes to the language of mathematics to quantify them.
PHYSICOCHEMISTRY II	LQU3031	At the end of the course, the student will analyze in detail the reaction speeds and the evaluation of kinetic parameters, know and interpret electrochemical phenomena, as well as understand the nature and applications of colloidal chemistry.
PHYSICOCHEMISTRY II LAB	LQU3041	At the end of the course, the student will apply experimental techniques to the study of the reaction kinetics of homogeneous and heterogeneous systems.

INORGANIC CHEMISTRY	**LQU3061**	At the end of the course, the student will handle correctly and precisely the fundamental concepts of transition metal coordination chemistry, dative bonding, electronic theories, organometallic compounds, periodic properties of elements of the main group and rules of stabilization of atomicclusters.
INORGANIC CHEMISTRY LAB II	**LQU3071**	At the end of the course, the student will explain the relationship of the structure of an inorganic compound with its reactivity and will enunciate the main steps of the methods of synthesis of complexes, organometallic compounds and metal clusters.
TOXICOLOGY	**LBC4071**	At the end of the course, the student will classify the harmful substances to which living organisms are exposed in the environment based on their origin, their degree of toxicity, their toxicokinetics and their toxicodynamics; recognize the national and international regulations governing toxicology in the various areas of professional development; recognize the methodology involved in the identification, analysis and clinical consequences of the action of toxic compounds of very varied origins to which humans may be exposed to prevent and treatpoisonings.
MICROBIOLOGY	**LB12081**	At the end of the course, the student will correctly explain the structure, metabolism and growth conditions of microorganisms, as well as describe the techniques for the culture and quantification of microorganisms and select the most appropriate methods for their control.
ECOLOGY AND ENVIRONMENTAL CHANGE	**LBI3081**	At the end of the course, the student will interpret and analyze the structure and function of ecosystems considering the interactions between the different components, evaluate the human effects and their consequences on ecosystems, particularly climate change, as well as the global measures of remediation, mitigation and conservation onthem.
BIOCHEMISTRY II	**LQU3101**	At the end of the course, the student will correctly describe the metabolic pathways, their regulation, their interrelationships and the organs or tissues in which they take place; to analyze the metabolism in normal physiological situations.

INSTRUMENTAL ANALYSIS	**LQU4031**	At the end of the course, the student will efficiently use the various instrumental analysis techniques, to establish an adequate methodology for the development of a complete Chemical analysis and to apply the necessary criteria to correctly interpret the experimental results obtained using physicochemical analysis methods.
INSTRUMENTAL ANALYSIS LAB	**LQU4041**	At the end of the course, the student will identify and quantify the analysis of a sample through the physicochemical treatment and the instrumental analysis of the same.
ADVANCED PHYSICOCHEMISTRY	**LQU4071**	At the end of the course, the student will correctly understand and handle the basic terms and concepts of interfaces and physicochemistry of surfaces, analyze the different interactions between a substrate and adsorbate, emphasizing adsorption models based on the morphological characteristics of the surface, understand the various methods to analyze the geometric characteristics of surfaces, structural arrangement and composition 1 of surfaces.
PHYSICS LAB	**FIS1021**	At the end of the course, the student will analyze experimentally, basic concepts related to classical mechanics, electromagnetism and optics.
SPECTROSCOPY	**LQU3011**	At the end of the course, the student will describe and identify the information that can give each of the various spectroscopic methods and solve problems of different magnitude, both in a particular way and relating various spectroscopic techniques.
SPECTROSCOPY LAB	**LQU3021**	At the end of the course, the student will recognize the basic composition of the equipment, as well as the operation of those used in ultraviolet spectroscopy, infrared, nuclear magnetic resonance and mass spectrometry; implement instrumental methods, infrared, ultraviolet, nuclear magnetic resonance, masses and apply theoretical knowledge for the identification of an organic compound.
BIOMOLECULES CHEMISTRY	**LQU3091**	At the end of the course, the student will distinguish different reactions with carbon nucleophiles and the reactions and methods of obtaining lyrus halides and organometallic compounds and describe a mechanism with different enolates; solve problems related to the role in the chemistry of life that natural products derived from acetate and natural nitrogen compounds have.

ENVIRONMENTAL CHEMISTRY	LQU3081	At the end of the course, the student will identify the different types of environmental pollutants and their implications for the environment and health, to know and manage the main methods of quantifying pollutants in water, air and soil, as well as to instill a culture towards the protection of the environment.
PROFESSIONAL PRACTICE I	LQU4011	At the end of the course, the student will apply their knowledge and acquire skills by joining rnultidisciplinarios teams to perform specific work in the different Chemistry areas and solve situations of adaptation to a new work environment.
SUSTAINABLE CHEMISTRY	LQU4021	At the end of the course, the student will correctly apply the principles of sustainable chemistry and describe the various methods for the synthesis of inorganic and organic compounds through sustainable processes.
INTRODUCTION TO QUANTUM AND COMPUTATIONAL CHEMISTRY	LQU4051	At the end of the course, the student will understand the basic concepts of quantum theory and its most important advances and applications in the properties of atoms and molecules, implement the concepts derived from quantum mechanics in the simulation of chemical structures and reactions numerically, allowing the study of chemical phenomena in computers and obtaining information on stable molecules, unstable intermediates and transition states.
SELECT TOPICS I	TQU4011	At the end of the course, the student will apply and relate the knowledge in a chemical sciences topic from a current point of view.
PROFESSIONAL PRACTICE II	LQU4061	At the end of the course, the student will apply their knowledge and acquire skills by joining rnultidisciplinarios teams to perform specific work in the different Chemistry areas and solve situations of adaptation to a new work environment.
ADVANCED ORGANIC CHEMISTRY	LQU4081	At the end of the course, the student will identify terpene s and sterols as well as identify pericyclic and photochemical reactions applying them to everyday problems, apply retrosynthetic techniques to design the preparation of organic compounds from selected raw materials
ADVANCED ANALYTICAL CHEMISTRY	LQU4101	At the end of the course, the student will efficiently apply physical properties of the substances, such as their solubility and color, to the process of analytical identification, establish an adequate methodology for the development of a complete chemical analysis, in addition to understanding and

		acquiring sufficient skills to solve the problems that illustrate the principles that are applied in laboratory procedures.
SELECT TOPICS II	TQU4021	At the end of the course, the student will apply and relate the knowledge in a chemical sciences topic from a current point of view.
SELECT TOPICS III	TQU4031	At the end of the course, the student will apply and relate the knowledge in a chemical sciences topic from a current point of view.

LICENCIATURA IN ELECTRONICS ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO ELECTRONIC ENGINEERING	LIR1011	At the end of the course, the student will master the principles of analysis and design of basic digital circuits and resistive analog circuits.
INTRODUCTION TO PROGRAMMING	LIS1011	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.

LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
DIGITAL DESIGN	LIR1031	At the end of the course, the student will identify and manage the binary number system to design combinational and sequential digital circuits.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
DIGITAL DESIGN LAB	LIR1041	At the end of the course, the student will design, simulate and integrate combinational and sequential logic circuits with applications in digital electronics.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
OBJECT-ORIENTED PROGRAMMING	LIS1031	At the end of the course, the student will design and program with the object-oriented paradigm, and to know and apply design techniques, UML notation (UNIFIED MODELING LANGUAGE) and the Java or C# programming language.
CIRCUIT THEORY	LIR1021	At the end of the course, the student will apply, model, simulate and verify electronic circuits with the help of the specialized computational tool.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
ELECTRONIC CIRCUITS	LIR2011	At the end of the course, the student will master the analysis and design of amplifier circuits in different configurations and technologies for voltage regulation, rectification and switching applications.
ELECTRONIC CIRCUIT LAB	LIR2021	At the end of the course, the student will design, analyze and integrate amplifier circuits in different configurations and technologies for voltage regulation, rectification and switching applications.

FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MECHANICS	FIS2011	At the end of the course, the student will analyze and apply Newton's laws as well as the concepts of conservation of momentum and energy, in addition, to show the ability to learn and update autonomously their knowledge in the modeling of physical phenomena using the concept of energy.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
VECTOR CALCULUS	MAT2091	At the end of the course, the student will pose, solve and interpret problems that involve the concepts of trajectory, velocity vectors, acceleration, tangent, normal and binormal. Manage and interpret the concepts of gradient, divergence and rotational, as well as their interrelationships. Raise, solve and interpret problems involving line and surface integrals. Handle and interpret the theorems of Green, Stokes and Gaussian divergence. Calculate gradient, divergence, and rotational in rectangular, cylindrical, and spherical coordinate systems.
ANALOG DESIGN	LIR2031	At the end of the course, the student will analyze and design signal amplifiers of one or several stages using different types of transistors and configurations.
ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.

ELECTROMAGNETISM	FIS3011	At the end of the course, the student will understand the electrical and magnetic phenomena, analyze everyday situations to abstract the phenomena studied and solve problems related to them. In addition, it will be able to translate the studied processes into the language of mathematics to quantify them.
ANALOG DESIGN LAB	LIR2041	At the end of the course, the student will build, simulate and evaluate the behavior of analog, discrete and integrated electronic circuits, placing emphasis on the use of laboratory instruments and appropriate computing tools.
MICROCONTROLLERS LAB	LIR2061	At the end of the course, the student will optimize the efficiency of digital systems, based on the use of computational tools, by optimizing the generation of programs in assembly and high-level languages.
MICROCONTROLLERS AND MICROPROCESSORS	LIR2051	At the end of the course, the student will apply the architecture of microprocessors and microcontrollers to design digital systems in instrumentation, automation and processing applications.
DATABASES	LIS3031	At the end of the course, the student will model and develop database management systems for information administration.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
INSTRUMENTATION AND MEASUREMENT	LIR3021	At the end of the course, the student will distinguish and apply the basic concepts of measuring physical variables for industrial applications.
INSTRUMENTATION AND MEASUREMENT LAB	LIR3031	At the end of the course, the student will design, analyze and integrate circuits to make measurements in industrial applications.
PROBABILITY AND STATISTICS	MAT2061	At the end of the course, the student will handle the basic concepts of statistics and probability and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.

SIGNALS AND SYSTEMS	LIR3011	At the end of the course, the student will master, model, design and build applications in communications and signal processing.
RECONFIGURABLE SYSTEMS	LIR3041	At the end of the course, the student will analyze, design and implement processors with reconfigurable logic using VHDL (Very high-speed integrated circuits Hardware Description Language).
DIGITAL COMMUNICATIONS	LIR3051	At the end of the course, the student will analyze and design communications systems for applications of data compression, detection, error corrections, cryptography and detection of noise signals.
RENEWABLE ENERGIES	LIR3081	At the end of the course, the student will apply the knowledge for the design and integration of systems to produce alternative energy.
TECHNOLOGICAL INNOVATION	INF2011	At the end of the course, the student will identify and apply the fundamental concepts and methodologies for the development of technological innovations, particularly through the work in multidisciplinary teams.
SIGNAL PROCESSING LAB	LIR3111	At the end of the course, the student will analyze and design systems to process signals in the domain of time and frequency with applications in communication and power systems.
COMMUNICATIONS NETWORK LAB	LIR3101	At the end of the course, the student will analyze, apply and integrate a communications network, using communication protocols for wired and wireless communication.
SIGNAL PROCESSING	LIR3061	At the end of the course, the student will analyze and design systems for the analog and digital processing of signals with applications in communications.
COMMUNICATIONS NETWORKS	LIR3071	At the end of the course, the student will master the fundamental concepts of digital data communication, the design process and the overall operation of a communications network.
INTELLIGENT SYSTEMS	LIR3091	At the end of the course, the student will apply knowledge of fuzzy logic and genetic algorithms for applications in Control Systems and computerized decision devices.
PROGRAM AND PROJECT MANAGEMENT	LAD4071	At the end of the course, the student will apply the techniques and tools of Project Management through a complete and coherent methodology, valid for any type of projects, including organizational, human and technical aspects.
ELECTRONIC SYSTEMS LAB	LIR4051	At the end of the course, the student will handle, use and apply electronic engineering components, equipment and software for automation and control applications.

ELECTRICAL MACHINES	LIR4041	At the end of the course, the student will select, operate and maintain electrical machines such as transformers, motors, generators for different applications.
PROFESSIONAL PRACTICE I	LIR4011	At the end of the course, the student will use the knowledge acquired in their studies to diagnose, plan, evaluate and take part in the solution of problems and situations, establishing a link between theory and practice, between the university and society, between their aspirations and the needs of his environment.
AUTOMOTIVE NETWORKS	LIR4021	At the end of the course, the student will analyze, manage and understand the operation of a data network applied to automotive distributed systems.
CONTROL SYSTEMS	LIR4031	At the end of the course, the student will model, analyze, simulate and integrate physical control systems applied to electronic and mechatronic systems.
INDUSTRIAL AUTOMATION	LIR4071	At the end of the course, the student will design, analyze, identify and integrate practical solutions for the management of automated systems.
POWER ELECTRONICS	LIR4081	At the end of the course, the student will design, build and test power electronics systems in different automation, home automation and robotics applications.
AUTOMATION LAB	LMT4031	At the end of the course, the student will design, analyze and implement applications that use programmable logic controllers (PLC's) and oleonumatic elements in industrial automation.
PROFESSIONAL PRACTICE II	LIR4061	At the end of the course, the student will use the knowledge acquired in their studies to diagnose, plan, evaluate and take part in the solution of problems and situations, establishing a link between theory and practice, between the university and society, between their aspirations and the needs of his environment.
SELECT TOPICS I	TIR4011	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.
SELECT TOPICS II	TIR4021	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.
SELECT TOPICS III	TIR4031	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.

LICENCIATURA IN LOGISTICS ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO LOGISTICS ENGINEERING	LIG1011	At the end of the course, the student will use basic tools to have a general knowledge of what their career is, and describe some of the basic concepts of the discipline and how they are used in professional practice.
INTRODUCTION TO PROGRAMMING	LIS1011	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
FINANCIAL MANAGEMENT	CON2011	At the end of the course, the student will analyze, identify and debate the role of the financial manager within companies, the different ways in which they operate, the basic Financial analysis and Planning tools, the evaluation of financial performance through the analysis of financial reasons and cash flow, the structure of the asset and the financial structure. They will analyze how to value financial assets, the value of money over time, risk and performance analysis and the characteristics and forms of valuation of fixed income securities and common shares in the national and international markets.
LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.

CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INTERNATIONAL LOGISTICS I	LNI3021	At the end of the course, the student will describe the importance of logistics activities in companies at an international level, identifying the general principles of international purchasing management and localization of the company's operations at an international level and to define principles of CRM systems administration (Customer Relationship Management).
PROGRAM AND PROJECT MANAGEMENT	LAD4071	At the end of the course, the student will apply the techniques and tools of Project Management through a complete and coherent methodology, valid for any type of project, including organizational, human and technical aspects.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PURCHASING AND PROCUREMENT LOGISTICS	LIG2011	At the end of the course, the student will develop a purchasing strategy for a company, considering all the important factors of a successful strategy.
INTERNATIONAL LOGISTICS II	LNI3071	At the end of the course, the student will describe the importance of logistics activities in companies at an international level, to identify the general principles of international purchasing administration and to locate the company's operations at an international level; and finally, to define the principles of CRM (Customer Relationship Management) systems management.

INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
DATA ANALYSIS	III2051	At the end of the course, the student will gather, organize, describe and present univariate data in such a way that they can obtain the relevant information quickly and accurately, and use probability as a language and measure of uncertainty, and as a basis for decision-making.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
INTERNATIONAL TRADE	LEC2051	At the end of the course, the student will analyze, according to the main theoretical approaches within the economy, how the trade patterns of countries are determined, and understand the influence that economic policy can exert on these patterns.
MATHEMATICAL PROGRAMMING METHODS I	III2061	At the end of the course, the student will solve problems of practical application in the field of industrial engineering related to linear programming. The student will apply linear optimization methods and their fundamentals.
HEURISTIC METHODS	LIG2031	At the end of the course, the student will use constructive heuristics to obtain feasible solutions to integer and combinatorial programming problems of practical application in the field of logistics and manufacturing.
OPTIMIZATION METHODS AND MODELS	III2041	At the end of the course, the student will understand the mathematical programming models for the solution of practical application problems in engineering related to the optimization of resources or the solution of combinatorial problems; formulate problems of linear programming, nonlinear programming, quadratic programming, Integer and Combinatorial programming and constraint programming, related to practical application problems in engineering.
INFORMATION TECHNOLOGIES IN LOGISTICS	LIG2021	At the end of the course, the student will describe the uses of information technologies in the different elements of a supply chain, list the competitive advantages that can be obtained using information technologies and logistics, select current information technologies to support the business processes of an organization.

ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
STATISTICAL INFERENCE	III3021	At the end of the course, the student will identify and analyze some distributions of common statistics, perform point and interval estimation of unknown parameters, tests of hypotheses referring to unknown parameters, from the information of a sample.
ECONOMIC AND FINANCIAL ENGINEERING	III2031	At the end of the course, the student will identify and use the interest rate as an evaluation tool, schedule investments with the inclusion of time as a factor of analysis, define the different types of interest in the market and analyze their impact on the investment, distinguish the true cost of an interest rate in the investment, assess and direct financial requirements over time.
DYNAMIC SYSTEMS LAB	LIG3031	At the end of the course, the student will build models of system dynamics using commercial software.
METHODS OF MATHEMATICAL PROGRAMMING II	III3031	At the end of the course, the student will understand the advantages of using optimization tools in operational areas related to production, logistics and management; build entire programming models that support the decision-making process.
METAHEURISTIC METHODS	LIG3011	At the end of the course, the student will use Metaheuristic methods to solve optimization problems related to logistics and manufacturing systems, implementing Metaheuristic methods in a programming language and proposing solution methodologies based on Metaheuristic methods for optimization problems related to logistics and manufacturing systems.
SIMULATION IN THE COMPANY	LAD4061	At the end of the course and based on their experiences with simulation games and business simulators, the student will develop the ability to create models that facilitate the analysis of strategic problems based on the modeling and simulation of them.
MANUFACTURING SYSTEMS DESIGN	III3071	At the end of the course, the student will understand the analytical principles of the design, analysis and control of manufacturing systems; integrate the concepts of variability and Stochastic analysis learned in other courses into the manufacturing environment.

NETWORK FLOW	LIG3041	At the end of the course, the student will describe the theoretical properties of flow models in networks, the algorithms of solution for flow problems in networks and implement algorithms of solution for flow problems in networks in a programming language.
SIMULATION LAB	III3111	At the end of the course the student will use the tools provided by the ARENA software, in the simulation of systems, for the analysis of information and timely decision-making.
LEAN LOGISTICS	LIG3051	At the end of the course, the student will describe the lean principles, the opportunities to apply lean in the logistics of different organizations and the basic principles and some lean tools, as well as some quality tools.
REGRESSION AND TIME SERIES	III3101	At the end of the course the student will discern the concepts of regression models, considering the mathematical foundations of the model and applying them to real cases, validate models by means of forecasting techniques and properly apply quantitative forecasting techniques, and use the computational tools that are necessary to obtain the numerical results.
SYSTEM SIMULATION	III3061	At the end of the course, the student will analyze a system identifying its main components to develop a model that simulates its behavior, using a programming language (general purpose and/or specific purpose) and other support programs, to analyze and design alternatives to improve the performance of said system.
INTERNATIONAL TRADE AGREEMENTS	LNI3051	At the end of the course, the student will apply, in specific cases, their knowledge about the niches of opportunity that open for Mexican and foreign companies in the regulatory framework of trade agreements.
STORAGE AND LOGISTICS	LIG4051	At the end of the course, the student will understand the main models related to the design and operation of warehouses, formulate mathematical programming problems related to decision-making processes in the storage areas, implement algorithms to solve problems related to the design and operation of warehouses and use specialized software to solve mathematical programming problems.
DESIGN OF LOGISTICS NETWORKS	LIG4031	At the end of the course, the student will understand the importance of the design of distribution networks in supply chains, describe and use performance measures to evaluate the functioning of the supply chain, list the main aspects to

		be taken into consideration in the design of distribution networks.
INVENTORY MODELS	**LIG4021**	At the end of the course, the student will design inventory models that allow him to calculate optimal order quantities and requisition points, both in deterministic cases and in cases where there is uncertainty in demand and/or anticipation time.
PRODUCTION PLANNING AND SCHEDULING	**LIG4041**	At the end of the course, the student will use appropriate techniques and models to plan and control operations of an organization in the medium and short term, with special emphasis on material handling.
PROFESSIONAL PRACTICE I	**LIG4011**	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in Logistics Engineering and solve situations of adaptation to a new work environment.
SELECT TOPICS I	**TIG4011**	At the end of the course, the student will apply the knowledge acquired in their studies to deal in greater depth with some of the topics in some area or areas of Logistics Engineering.
LOGISTICS CASES	**LIG4071**	At the end of the course, the student will identify and understand real problems and needs of the client or market, analyzing these problems from the perspective of complex systems. The solutions to these problems and needs are developed by thinking logically, conceptually, deductively and critically.
DISTRIBUTION ROUTES DESIGN	**LIG4081**	At the end of the course, the student will understand the importance of the design of transportation routes in supply chains, describe the different modes of transportation and their operating characteristics and the design options of transport networks and the impact of decisions associated with transportation activities on the supply chain.
OPTIMIZATION METHODS FOR LOGISTICS SYSTEMS	**LIG4091**	At the end of the course, the student will understand the importance of decomposition methods in optimization of large-scale problems and their applications to various problems related to the optimization of logistics systems, evaluating the performance of decomposition methods in optimization and comparing their performance in large-scale problems. They will apply decomposition algorithms to large-scale problems related to the optimization of logistics systems.

PROFESSIONAL PRACTICE II	LIG4061	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in Logistics Engineering and solve situations of adaptation to a new work environment.
SELECT TOPICS II	TIG4021	At the end of the course, the student will apply the knowledge acquired in their studies to deal in greater depth with some of the topics in some area or areas of Logistics Engineering.
SELECT TOPICS III	TIG4031	At the end of the course, the student will apply the knowledge acquired in their studies to deal in greater depth with some of the topics in some area or areas of Logistics Engineering.

COMPUTER SYSTEMS ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO PROGRAMMING	LIS1011	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.
INTRODUCTION TO COMPUTER SYSTEMS	LIS1021	At the end of the course, the student will identify and relate the fundamental concepts of the areas of computer systems and information technologies, understanding the environment in which they are used and its key components.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.

LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
COMPUTATIONAL ARCHITECTURES	LIS1041	At the end of the course, the student will identify and evaluate computer architectures and implement the techniques of central process unit design.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
OBJECT-ORIENTED PROGRAMMING	LIS1031	At the end of the course, the student will design and program with the object-oriented paradigm, and to know and apply design techniques, UML notation (UNIFIED MODELING LANGUAGE) and the Java or C# programming language.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
DATA STRUCTURE	LIS2021	At the end of the course, the student will specify and develop programs for the management of the main Data Structures: arrays, stacks, queues, linked lists, balanced binary trees and sorting structures.
COMPUTER NETWORKING LAB	LIS2041	At the end of the course, the student will operate, configure and maintain the different equipment, software and accessories that are part of the infrastructure of a computer network.

FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PROGRAMMING LANGUAGES AND PARADIGMS	LIS2051	At the end of the course, the student will identify and apply the existing programming languages and paradigms, selecting the most appropriate ones for the various problems that arise.
DISCRETE MATHEMATICS	LIS2011	At the end of the course, the student will identify the main elements of discrete mathematical methods for the analysis and design of algorithms.
COMPUTER NETWORKS	LIS2031	At the end of the course, the student will master the design and use of wired and wireless networks, network operating systems, protocols and security in them.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
TECHNOLOGICAL INNOVATION	INF2011	At the end of the course, the student will identify and apply the fundamental concepts and methodologies for the development of technological innovations, particularly through the work in multidisciplinary teams.
HUMAN COMPUTER INTERACTION	LIS2081	At the end of the course, the student will identify and apply the fundamental concepts of Human-Computer Interaction (IHC), a multidisciplinary field that studies the human and technological aspects that impact the design of interactive systems.
PROBABILITY AND STATISTICS	MAT2061	At the end of the course, the student will handle the basic concepts of statistics and probability and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.
OPERATING SYSTEMS	LIS2071	At the end of the course, the student will describe the structure and organization of operating systems in general, understanding the concepts of design and implementation
STORAGE TECHNOLOGIES	LIS2061	At the end of the course, the student will identify in a comprehensive way and know the fundamental problems of storing and retrieving information in secondary memories.
DATABASES	LIS3031	At the end of the course, the student will model and develop database management systems for information administration.

ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
GRAPHING AND ANIMATION	LIS3021	At the end of the course, the student will apply the techniques of graphing and animation in two and three dimensions using some high-level language.
SOFTWARE ENGINEERING	LIS3011	At the end of the course, the student will identify and master the software engineering techniques available for the analysis, design, implementation, testing and installation of software.
LEAN SYSTEMS	III3091	At the end of the course, the student will describe the lean principles, the opportunities to apply lean in different organizations and apply the basic principles and some lean tools, as well as some quality tools.
COMPUTER THEORY	LIS3041	At the end of the course, the student will model, languages, computaterl grammar and model recursive algorithms.
ARTIFICIAL INTELLIGENCE	LIS3051	At the end of the course, the student will apply artificial intelligence search techniques to find solutions to complex problems, in distributed environments and on the web.
DATABASE HANDLER LAB	LIS3101	At the end of the course, the student will apply knowledge to choose, install, manage the data handlers.
DATABASE HANDLERS	LIS3071	At the end of the course, the student will master the technologies of data handlers such as; semantic, object-oriented, relational-extended and semi-structured data models.
OPTIMIZATION METHODS AND MODELS	III2041	At the end of the course, the student will understand the mathematical programming models for the solution of practical application problems in engineering related to the optimization of resources or the solution of combinatorial problems; formulate problems of linear programming, nonlinear programming, quadratic programming, Integer and Combinatorial programming and constraint programming, related to practical application problems in engineering.
SOFTWARE DESIGN PATTERNS	LIS3091	At the end of the course, the student will identify the appropriate design patterns to apply in solving specific problems.

MULTIMEDIA PROCESSING	LIS3081	At the end of the course, the student will apply and evaluate the relevance of techniques and tools for the manipulation of multimedia data in areas such as medicine, biology, robotics, public safety, human computer interaction and distance education.
DISTRIBUTED SYSTEMS	LIS3061	At the end of the course, the student will apply and evaluate the relevance of the techniques and tools of construction of distributed systems.
PROGRAM AND PROJECT MANAGEMENT	LAD4071	At the end of the course, the student will apply the techniques and tools of Project Management through a complete and coherent methodology, valid for any type of projects, including organizational, human and technical aspects.
APPLICATIONS IN DISTRIBUTED ENVIRONMENTS	LIS4021	At the end of the course, the student will design, implement and release a computer system that works on the Web.
PROFESSIONAL PRACTICE I	LIS4011	At the end of the course, the student will put into practice the knowledge acquired in their studies to diagnose, plan, evaluate and take part in the solution of problems and situations of his profession, establishing a link between theory and practice, between the university and society, and between their aspirations and the needs of the environment.
INFORMATION RETRIEVAL AND WEB SEARCH	LIS4031	At the end of the course, the student will identify and apply the main solutions to problems associated with the exploitation of large amounts of data, particularly semi-structured and unstructured available through the web.
TELECOMMUNICATIONS SYSTEMS	LIS4041	At the end of the course, the student will master the design and use of wireless networks, cellular phones, wireless network protocols, mobiles and multimedia network support on the Internet.
SELECT TOPICS I	TIS4011	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.
NETWORK AND SERVER MANAGEMENT	LIS4081	At the end of the course, the student will apply the knowledge to install, manage, backup and recover servers.
MOBILE APPLICATIONS	LIS4071	At the end of the course, the student will determine and design the appropriate architecture of a cell phone application, as well as program and test applications for various cell phone models.
NETWORK AND SERVER LAB	LIS4091	At the end of the course, the student will install, configure and manage servers.

PROFESSIONAL PRACTICE II	LIS4051	At the end of the course, the student will put into practice the knowledge acquired in their studies to diagnose, plan, evaluate and take part in the solution of problems and situations of his profession, establishing a link between theory and practice, between the university and society, and between their aspirations and the needs of the environment.
COMPUTER SECURITY	LIS4061	At the end of the course, the student will master the principles and practical concepts of cryptography and security in a communications network.
SELECT TOPICS II	TIS4021	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.
SELECT TOPICS III	TIS4031	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.

LICENCIATURA IN FOOD ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO FOOD ENGINEERING	LIA1011	At the end of the course, the student will describe the different fields of application of Food Engineering, understanding the main factors responsible for the deterioration of food and combine theory and practice for the preservation of representative foods.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the

		energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	**MAT1051**	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
MATTER BALANCE	**LQI1021**	At the end of the course, the student will develop a clear and systematic methodology to formulate and resolve the Matter Balances for different processes.
CALCULUS I	**MAT1061**	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	**ESP0021**	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FUNDAMENTALS OF BIOLOGY	**LBI1011**	At the end of the course, the student will recognize the general principles that determine, define and characterize living beings, integrating knowledge about diversity and emerging properties of life in the physicochemical and evolutionary context.
INTRODUCTION TO DESIGN IN CHEMICAL PROCESS ENGINEERING	**LQI1031**	At the end of the course, the student will identify how engineers face and solve problems, increasing their awareness and interest in the types of problems they face. The purpose of the course is to introduce students to the Engineering Method focusing on six major goals: self-regulation, communication, cooperative work, problem solving, modeling and quality.
FOREIGN LANGUAGE II	**LEX0121**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

ENERGY BALANCES	LQI2011	At the end of the course, the student will formulate and resolve the energy balance by identifying the different forms of energy interactions, between a system and its surroundings, through its borders, energy transfers such as heat and work, to achieve changes in internal energy. Using properties information using tables, thermodynamic diagrams and some predictive methods ideal for pressure-volume-temperature (PVT) properties, heat capacity at constant pressure and volume (Cp, Cv), ideal properties, internal energy (U), enthal power(H); learn and develop a clear and systematic methodology to solve energy balances for different process equipment.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
MICROBIOLOGY LAB	LBI2091	At the end of the course, the student will work in sterile conditions and develop the necessary laboratory skills to manipulate, grow and preserve microbiological specimens.
THERMOPHYSICAL PROPERTIES LAB	LQI2021	At the end of the course, the student will handle laboratory equipment and accessories; as well as interpret the results obtained, by relating them to the basic knowledge of thermodynamics.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MICROBIOLOGY	LBI2081	At the end of the course, the student will correctly explain the structure, metabolism and growth conditions of microorganisms, as well as describe the techniques for the culture and quantification of microorganisms and select the most appropriate methods for their control.
ORGANIC CHEMISTRY I	LQU1051	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly manage nomenclature, stereochemistry, structure and reactivity in acid-base processes.
BIOCHEMISTRY I	LQU2071	At the end of the course, the student will correctly describe the structure, the physicochemical characteristics, the function and interactions of the biomolecules, as well as the methodology used for their study.

ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
PHYSICS	FIS1011	At the end of the course, the student will handle the basic concepts related to Classical Mechanics, Electromagnetism and Optics formalizing the handling of the laws of Classical Physics.
ANALYTICAL CHEMISTRY LAB	LQU2061	At the end of the course, the student will manipulate the material and laboratory equipment used in Analytical Chemistry, knowing the chemical analysis techniques commonly used in quality control laboratories.
FOOD MICROBIOLOGY	LIA2011	At the end of the course, the student will describe the importance of microorganisms in relation to the deterioration of food and its prevention; in relation to the sanitary quality of a product; the cause of diseases related to the consumption of food and in the manufacture of certain foodstuffs; to explain how various extrinsic and intrinsic factors affect food for its proper preservation.
THERMODYNAMIC PROPERTIES OF FOOD	LIA2021	At the end of the course, the student will apply the fundamentals of thermodynamics and its relationship with the processes and reactions that occur in food; likewise, to apply the theory studied in the course to practical concepts that explain the evolution of biotechnological processes as a function of energy changes.
ANALYTICAL CHEMISTRY	LQU2051	At the end of the course, the student will identify the principles of Analytical Chemistry and apply them to problem solving in chemistry and related disciplines such as the biological and health sciences.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.

FOOD BIOCHEMISTRY	LIA3011	At the end of the course, the student will describe the main metabolic pathways in living organisms, to enunciate the changes they cause in foods of plant or animal origin, to identify major components such as proteins, lipids and fats; and to relate functional characteristics of the same in specific foods.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
TRANSPORT PHENOMENA IN FOOD	LIA3031	At the end of the course, the student will list the transport phenomena related to food, to discuss the fundamentals of the transfer of momentum, heat and mass in unitary operations; in addition to describing the differences to be considered in any physical operation where Newtonian and non-Newtonian fluids are handled.
FOOD BIOCHEMISTRY LAB	LIA3021	At the end of the course, the student will describe the biochemical processes that occur in living systems, to identify the characteristics of biochemical components in food and to understand how they are affected during the processing of said foods.
MODELING AND SIMULATION IN CHEMICAL PROCESS ENGINEERING	LQI3021	At the end of the course, the student will apply the general concepts of programming, to develop a formal methodology for solving problems with computational tools, defining an algorithm and to properly manage Excel as an interactive numerical software, as well as a VBA or Matlab programming language, which allows him to solve process problems in chemical, food and/or environmental engineering.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
FOOD ANALYSIS	LIA3091	At the end of the course, the student will explain the main methods used to quantify the components of food in such a way that, from the understanding of the fundamentals of the same, chooses the one that is most suitable to make a determination in each situation, in addition to specifying the possible modifications without affecting the accuracy of the results and to manage the data and results obtained.

NUTRITIONAL BIOCHEMISTRY	**LIA3041**	At the end of the course, the student will identify the way in which each nutrient is digested, absorbed, transported, stored and discarded by humans, the metabolic functions of each nutrient and the effects of excesses and deficiencies of each nutrient on human health, to know the nutritional requirements of each nutrient of healthy people depending on the sex , age, physical constitution and population of origin; to find this information and use it.
STATISTICAL CONTROL OF PRODUCTS AND PROCESSES	**LQI3081**	At the end of the course, the student will understand and apply the principles of Probability and Statistics to solve practical problems in chemical, food and environmental engineering, to know and develop the skills to handle computational tools with statistical applications for data analysis; in addition to interpreting the data and graphs with statistical estimators, statistical inferences and regression analysis.
FOOD ANALYSIS LAB	**LIA3101**	At the end of the course, the student will apply different methods to quantify the components of the food, analyze and discuss the results obtained, evaluate the methods applied, recommend the most appropriate method according to the sample and the purpose of the analysis and arrive at conclusions regarding the characteristics of the analytical methods.
FOOD CHEMISTRY LAB	**LIA3081**	At the end of the course, the student will develop the necessary skills for the handling of chemical and biological material in experimentation and interpret the observations and results obtained in the Llboratory.
FOOD MOMENTUM TRANSFER AND RHEOLOGY LAB	**LIA3061**	At the end of the course, the student will apply methods for the rheological characterization of food fluids, to understand and to properly handle instruments and equipment involved in the transport of food fluids; relate theory concepts to common calculations in the design and selection of motors and pumping, stirring and mixing equipment, as well as in size reduction and mechanical separation operations.
FOOD CHEMISTRY	**LIA3071**	At the end of the course, the student will describe the fundamental principles of the main deteriorative and beneficial changes that happen in food due to endogenous and exogenous agents, as well as to analyze the aspects of the functionality of the main components (water, lipids, carbohydrates, proteins, enzymes and pigments) and describe their influence on the physical properties, chemical, nutritional and organoleptic food.

MOMENTUM TRANSFER AND FOOD RHEOLOGY	LIA3051	At the end of the course, the student will understand and mention the concepts of rheology, rheological properties and unitary transport operations to describe the methodology to design equipment that transports or handles process food fluids.
FOOD PHYSICOCHEMISTRY	LIA4061	At the end of the course, the student will identify the importance of water activity in the processing and preservation of food; in addition to identifying and describing important physicochemical systems and phenomena in food products.
FOOD PHYSICOCHEMISTRY LAB	LIA4071	At the end of the course, the student will apply the principles involved in the processing, handling and storage of food in which the availability of water has been reduced; describe the physicochemical properties and the effect of water activity and other variables on the kinetics of deterioration; identify and specify food systems and their properties when in gel, foam or emulsion.
FOOD PROCESSING LAB	LIA4051	At the end of the course, the student will explain the bases of the methodology of food processing with special reference to the prevention of biological, microbiological and chemical deterioration; describe food processing and preservation technologies through fermentation, curing and sausage, smoking, salting, sugaring and packaging.
ENERGY TRANSFER PROCESSES IN FOOD LAB	LIA4031	At the end of the course, the student will apply the theoretical knowledge acquired of energy transfer processes in food and to manage equipment involved in heat transfer operations.
PROFESSIONAL PRACTICE I	LIA4011	At the end of the course, the student will apply the knowledge acquired in the previous courses and develop experimental skills, documentation and reporting, process analysis and projects in the industry through professional practices or research activities in their field.
FOOD PROCESSING	LIA4041	At the end of the course, the student will understand the various processes of food conservation (fermentation, salting, sugaring, curing, smoking, packaging), to describe the fundamental principles that support them; calculate the equipment for industrially processing harmless and good quality food products according to the techniques mentioned.

ENERGY TRANSFER PROCESSES IN FOOD	**LIA4021**	At the end of the course, the student will describe the phenomena of heat transfer and their application to the design of equipment, both tubular and plate exchangers; to discuss the basic laws of destruction of microorganisms and heat transfer; likewise, it will specify the basic criteria for the selection and/or design of exchangers, evaporators, refrigeration chambers and equipment for freezing food.
SELECT TOPICS I	**TIA4011**	At the end of the course, the student will apply the knowledge acquired in their, to address specific problems of their area and propose innovative technical solutions.
DESIGN AND DEVELOPMENT OF FOOD PRODUCTS AND PROCESSES	**LIA4131**	At the end of the course, the student will describe the methodology for the design of food products and processes, to integrate knowledge acquired in previous courses on technology, engineering, economics and related areas; apply the procedures to be followed for obtaining a high-quality food product competing advantageously on the processed food market and to develop a new product.
FOOD ENGINEERING	**LIA4091**	At the end of the course, the student will explain and apply unitary mass transfer operations in food engineering; describe the general principles of Balances of Matter and Energy in processes; relate the fundamental aspects of mass transfer and to master the methodology for the analysis and design of processes.
FOOD QUALITY ASSURANCE LAB	**LIA4121**	At the end of the course, the student will list and apply the analysis techniques of food quality and to discuss the type of quality nalysis appropriate to the type of food.
FOOD ENGINEERING LAB	**LIA4101**	At the end of the course, the student will apply the theoretical concepts studied in the Food Engineering course and to develop practical experiences to deepen the analysis, designing processes and representative equipment in the food industry; they will develop laboratory skills and experiment working on projects related to the theoretical course.
PROFESSIONAL PRACTICE II	**LIA4081**	At the end of the course, the student will apply the knowledge acquired in the previous courses and develop experimental skills, documentation and reporting, process analysis and projects in the industry through professional practices or research activities in their field.

PHYSICAL AND SENSORY PROPERTIES OF FOOD	LIA4111	At the end of the course, the student will describe the most important physical and sensory quality attributes of food and describe the techniques for its evaluation; they will ensure the total quality for the manufacture of the food in relation to the production process and handling after its production; describe the important physical, chemical, nutritional, microbiological and sensory quality attributes in each food group.
SELECT TOPICS II	TIA4021	At the end of the course, the student will apply the knowledge acquired in their, to address specific problems of their area and propose innovative technical solutions.
SELECT TOPICS III	TIA4031	At the end of the course, the student will apply the knowledge acquired in their, to address specific problems of their area and propose innovative technical solutions.

ENVIRONMENTAL ENGINEERING

ENGLISH I	SP0011	At the end of the course, the student will manage information to elaborate argumentative texts within his discipline, adapting the necessary writing rudiments that allow him to achieve his persuasive intention in the context of the Academic interactions of his area.
INTRODUCTION TO ENVIRONMENTAL ENGINEERING	LIN1011	At the end of the course, the student will list the different fields of application of Environmental Engineering. In this way the student has the appropriate motivation for the development of the academic work. On the other hand, the student will locate correctly within the University to make proper use of the services and have an integration to the career.
GENERAL CHEMISTRY LAB	LQU1021	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
MATTER BALANCE	LQI1021	At the end of the course, the student will develop a clear and systematic methodology to formulate and resolve the Matter Balances for different processes.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
INTRODUCTION TO DESIGN IN CHEMICAL PROCESS ENGINEERING	LQI1031	At the end of the course, the student will identify how engineers face and solve problems, increasing their awareness and interest in the types of problems they face. The purpose of the course is to introduce students to the Engineering Method focusing on six major goals: self-regulation, communication, cooperative work, problem solving, modeling and quality.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
ENERGY BALANCES	LQI2011	At the end of the course, the student will formulate and resolve the energy balance by identifying the different forms of energy interactions, between a system and its surroundings, through its borders, energy transfers such as heat and work, to achieve changes in internal energy. Using properties information using tables, thermodynamic diagrams and some predictive methods ideal for pressure-volume-temperature (PVT) properties, heat capacity at constant pressure and volume (Cp, Cv), ideal properties, internal energy (U), enthal power(H); learn and develop a clear and systematic methodology to solve energy balances for different process equipment.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
THERMOPHYSICAL PROPERTIES LAB	LQI2021	At the end of the course, the student will handle laboratory equipment and accessories; interpret the results obtained, by relating them to the basic knowledge of thermodynamics.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ORGANIC CHEMISTRY I	LQU1051	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly manage nomenclature, stereochemistry, structure and reactivity in acid-base processes.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.

ENTROPY BALANCES	LQI2031	At the end of the course, the student will perform a systematic analysis of thermodynamic processes using the principles of thermodynamics; formulate and resolve the balance of entropy and energy for the different forms of interactions or energy transfers between a system, its surroundings and the environment.
ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
PHYSICS	FIS1011	At the end of the course, the student will handle the basic concepts related to Classical Mechanics, Electromagnetism and Optics formalizing the handling of the laws of Classical Physics.
ADVANCED THERMOPHYSICAL PROPERTIES LAB	LQI2041	At the end of the course the student will formulate and solve the balance of entropy, using information of thermophysical properties using tables, thermodynamic diagrams and some predictive methods ideal for generating thermodynamic diagrams of internal energy (U), pressure-enthalhy (PH), temperature-entropy (TS) and pressure-volume (PV; to apply the systematic methodology for thermodynamic analysis of processes.
ANALYTICAL CHEMISTRY LAB	LQU2061	At the end of the course, the student will manipulate the material and laboratory equipment used in Analytical Chemistry, knowing the chemical analysis techniques commonly used in quality control laboratories.

ANALYTICAL CHEMISTRY	**LQU2051**	At the end of the course, the student will identify the principles of Analytical Chemistry and apply them to problem solving in chemistry and related disciplines such as the biological and health sciences.
ECONOMIC AND FINANCIAL ENGINEERING	**III2031**	At the end of the course, the student will identify and use the interest rate as an evaluation tool, schedule investments with the inclusion of time as an analysis factor, define the different types of interest in the market and analyze their impact on the investment, distinguish the true cost of an interest rate in the investment , assess and direct financial requirements over time.
MICROBIOLOGY LAB	**LBI2091**	At the end of the course, the student will work in sterile conditions and develop the necessary laboratory skills to manipulate, grow and preserve microbiological specimens.
TRANSPORT PROCESS LAB I	**LQI3051**	At the end of the course, the student will identify, operate and experiment with equipment, at the pilot plant level, related to the processes of transport of moment and heat to interpret the results and evaluate their performance; to relate this knowledge with the knowledge of the Transport Processes I course.
MICROBIOLOGY	**LBI2081**	At the end of the course, the student will correctly explain the structure, metabolism and growth conditions of microorganisms, as well as describe the techniques for the culture and quantification of microorganisms and select the most appropriate methods for their control.
MODELING AND SIMULATION IN CHEMICAL PROCESS ENGINEERING	**LQI3021**	At the end of the course, the student will apply the general concepts of programming, to develop a formal methodology for solving problems with computational tools, defining an algorithm and to properly manage Excel as an interactive numerical software, as well as a VBA or Matlab programming language, which allows him to solve process problems in chemical, food and/or environmental engineering.
TRANSPORT PROCESSES I	**LQI3041**	At the end of the course, the student will identify the mechanisms of the processes of transport of momentum and heat to use them in the associated transfer processes and apply them to the solution of industrial and environmental problems.

ENERGY RESOURCES	LIN3011	At the end of the course, the student will describe the alternative sources of energy from biomass, the sun, nuclear energy, that coming from the movement of water, that coming from the force of the wind and that from the transmission of heat from the bowels of the earth to the environment; identify and propose technological developments in alternative energies and their industrial, commercial and domestic use; calculate the impact of the use of natural energies so that they are friendly to the environment with the ultimate goal of the good of humanity.
SAFETY IN THE CHEMICAL PROCESS INDUSTRY	LQI3011	At the end of the course, the student will identify the conceptual and application foundations of safety and protection of the work environment in industries; they will identify the theoretical and legal foundations of occupational safety, process safety and occupational hygiene applicable to the chemical industry, including the associated regulations and computational models and tools for the application of safety systems in industries.
ENVIRONMENTAL BIOTECHNOLOGY	LIN3031	At the end of the course, the student will list and calculate the parameters of biochemical kinetics applied to reactor design, listing the appropriate methodology for the analysis of intermittent and continuous biotechnological processes, which will select microorganisms and enzymatic systems to specify microbial and enzymatic reactors.
STATISTICAL CONTROL OF PRODUCTS AND PROCESSES	LQI3081	At the end of the course, the student will understand and apply the principles of Probability and Statistics to solve practical problems in chemical, food and environmental engineering, to know and develop the skills to handle computational tools with statistical applications for data analysis; in addition to interpreting the data and graphs with statistical estimators, statistical inferences and regression analysis.
SUSTAINABLE ENGINEERING	LIN3021	At the end of the course, the student will identify and analyze the main existing problems in relation to the environment, defining criteria to detect environmental problems, and analyzing their consequences to propose alternative solutions.
UNITARY OPERATIONS LAB	LQI3131	At the end of the course, the student will identify, operate and experiment with equipment, at the pilot plant level, related to fluid flow to interpret the results and evaluate their performance, in relation to the knowledge of the Unitary Fluid Flow Operations course.

TRANSPORT PROCESS LAB II	**LQI3141**	At the end of the course, the student will identify and operate equipment at the pilot plant level related to the transport processes and interpret the results and evaluate their performance, relating them to the knowledge of the Transport Processes II course.
FLUID FLOW UNIT OPERATIONS	**LQI3111**	At the end of the course, the student will identify the behavior of the fluids and to design transfer processes in tubes, ducts and their accessories.
UNITARY HEAT TRANSFER OPERATIONS	**LQI3121**	At the end of the course, the student will use the mechanisms of the heat transport processes in the associated transfer processes and apply them to the solution of industrial and environmental problems.
TRANSPORT PROCESSES II	**LQI3101**	At the end of the course, the student will identify the mechanisms of the mass transport processes and to apply them in the associated transfer processes; and calculate the solutions of industrial and environmental problems.
AIR POLLUTION CONTROL	**LIN4041**	At the end of the course, the student will argue about the origin and classification of air pollutants, meteorology, natural purification processes, dispersion models, control and measurement equipment of air pollutants as well as the applicable environmental regulations; analyze national and international air quality standards; select and design particulate and gaseous emission control equipment to minimise air pollution.
UNITARY MASS TRANSFER OPERATIONS	**LQI4021**	At the end of the course, the student will master the fundamentals of unitary operations involving mass transfer in fluid phases in equilibrium stages; describe the principles and to calculate with different methods the design of distillation, absorption, extraction and humidification equipment.
PROFESSIONAL PRACTICE I	**LIN4011**	At the end of the course, the student will apply the knowledge acquired in the previous courses and develop experimental skills, documentation and reporting, process analysis and projects in the industry through professional practices or research activities in their field.

ENVIRONMENTAL PROTECTION IN THE CHEMICAL INDUSTRY	LIN4021	At the end of the course, the student will identify the conceptual foundations and select the methods for the application of safety and environmental protection in industries; describe the theoretical and legal foundations of safety and environmental protection in industries, including the associated regulations; use and calculate, with models and computational tools, simulations and methods to solve environmental protection problems in industries.
SELECT TOPICS I	TIN4011	At the end of the course, the student will apply the knowledge acquired in their studies, to address specific problems of their area and propose innovative technical solutions.
WASTEWATER TREATMENT	LIN4031	At the end of the course, the student will master the unitary operations and processes required to set up Wastewater Treatment plants, both urban and industrial.
ENVIRONMENTAL ANALYSIS	LIN4081	At the end of the course, the student will master the theory and develop practical skills in the realization of the tests developed for the analysis of air, water, residues, soil and microorganisms, to apply the knowledge acquired in experiments for the solution of problems posed ex profeso, relating the processes and unitary operations applied to environmental engineering.
DESIGN OF ENVIRONMENTAL CONTROL EQUIPMENT	LIN4061	At the end of the course, the student will establish the conditions and characteristics of industrial processes susceptible to contamination; establish process diagrams for the treatment of polluting emissions or environmental impacts, to design the equipment that treats and reduces the possible damage to its minimum expression and to discriminate, in its design, technical, legal, environmental and economic aspects.
PROFESSIONAL PRACTICE II	LIN4051	At the end of the course, the student will apply the knowledge acquired in the previous courses and develop experimental skills, documentation and reporting, process analysis and projects in the industry through professional practices or research activities in their field.
SELECT TOPICS II	TIN4021	At the end of the course, the student will apply the knowledge acquired in their studies, to address specific problems of their area and propose innovative technical solutions.

SELECT TOPICS III	TIN4031	At the end of the course, the student will apply the knowledge acquired in their studies, to address specific problems of their area and propose innovative technical solutions.
WASTE TREATMENT	LIN4071	At the end of the course, the student will identify the different types of solid waste and its sources, listing the characteristics of composition of the different types of waste: municipal, industrial, hospital, etc., to calculate physical and chemical properties of solid waste, to assign value to subsequent treatment processes, disposal, incineration and reuse, and propose strategies for the management, storage, transport, treatment, processing, energy recovery, reuse and recycling of hazardous and non-hazardous solid waste always obeying the environmental regulations applicable to solid waste.

BIOMEDICAL ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO BIOMEDICAL ENGINEERING	LBM1011	At the end of the course, the student will apply the knowledge and basic concepts of biomedical engineering to solve problems related to medical instrumentation.
GENERAL CHEMISTRY LAB	LQU1021	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.

GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
DIGITAL DESIGN	LIR1031	At the end of the course, the student will identify and manage the binary number system to design combinational and sequential digital circuits.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
DIGITAL DESIGN LAB	LIR1041	At the end of the course, the student will design, simulate and integrate combinational and sequential logic circuits with applications in digital electronics.
ORGANIC CHEMISTRY LAB I	LQU1061	At the end of the course, the student will apply the knowledge acquired to assemble equipment used in organic chemistry and perform synthesis, separation, purification and identification operations; students will use personal safety regulations, good laboratory practices and handling of hazardous waste.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

ORGANIC CHEMISTRY I	LQU1051	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly manage nomenclature, stereochemistry, structure and reactivity in acid-base processes.
ANATOMY AND PHYSIOLOGY I	LBM2011	At the end of the course, the student will master the fundamentals of the morphology and functioning of the organism to detect alterations and diseases.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
ELECTRICAL CIRCUITS	LMT2011	At the end of the course, the student will apply the techniques of analysis of Electrical Circuits to design applications.
ELECTRICAL CIRCUITS LAB	LMT2021	At the end of the course, the student will identify, design, synthesize and analyze Electrical Circuits.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ANATOMY AND PHYSIOLOGY II	LBM2021	At the end of the course, the student will master the fundamentals of the morphology and functioning of the organism to detect alterations and diseases.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
MOLECULAR AND CELLULAR BIOLOGY	LMR1031	At the end of the course, the student will understand the structure, organization, compartmentalization, molecular and cellular complexity necessary to support the vital phenomena both at the level of single-celled

		organisms and in the integration of multicellular organisms.
ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
ANALOG ELECTRONICS	LMT2041	At the end of the course, the student will analyze and design analog electronic circuits that serve as a tool in the conditioning of signals that allow the automation of mechatronic systems.
ANALOG ELECTRONICS LAB	LMT2051	At the end of the course, the student will describe the operation, build and evaluate analog electronic circuits that can be used in the conditioning of signals that allow the automation of mechatronic systems.
MECHANICS	FIS2011	At the end of the course, the student will analyze and apply Newton's laws as well as the concepts of conservation of momentum and energy, in addition, to show the ability to learn and update autonomously their knowledge in the modeling of physical phenomena using the concept of energy.
BIOCHEMISTRY I	LQU2071	At the end of the course, the student will correctly describe the structure, the physicochemical characteristics, the function and interactions of the biomolecules, as well as the methodology used for their study.
DIGITAL ELECTRONICS	LMT3011	At the end of the course, the student will describe the characteristics of modern digital electronic technology and propose its use in mechatronic systems.

ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
PHYSICOCHEMISTRY I	LQU2011	At the end of the course, the student will interpret the various energy exchange processes, through the proper use of the principles of thermodynamics, calculating reaction heat and refer to the standard states, applying spontaneity and equilibrium criteria to various chemical and biological systems, using the concept of chemical potential to interpret physicochemical phenomena.
DIGITAL ELECTRONICS LAB	LMT3021	At the end of the course, the student will analyze, design, build and test digital systems that can be applied in the construction of mechatronic systems.
PROBABILITY AND STATISTICS	MAT2061	At the end of the course, the student will handle the basic concepts of statistics and probability and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.
SIGNALS AND SYSTEMS	LIR3011	At the end of the course, the student will master, model, design and build applications in communications and signal processing.
BIOMECHANICS	LBM3011	At the end of the course, the student will determine and apply the principles of mechanics to model or predict the mechanical behavior of any living system.
PHYSIOPATHOLOGY	LBC3071	At the end of the course, the student will interpret the basic mechanisms of the pathological processes shared by different diseases and the specific mechanisms involved in the production and clinical manifestations of these diseases.
BIOMEDICAL INSTRUMENTATION I	LBM3021	At the end of the course, the student will understand and analyze the characteristics of operation and performance of a measuring instrument in medical applications.

BIOMEDICAL INSTRUMENTATION LAB	LBM3031	At the end of the course, the student will design and implement electronic circuits using sensors, operational amplifiers, analog-digital and digital-analog converters for the acquisition and conditioning of signals and/or physical quantities.
SIGNAL PROCESSING LAB	LIR3111	At the end of the course, the student will analyze and design systems to process signals in the domain of time and frequency with applications in Communication and Power Systems.
SIGNAL PROCESSING	LIR3061	At the end of the course, the student will analyze and design systems for the analog and digital processing of signals with applications in communications.
COMMUNICATIONS NETWORKS	LIR3071	At the end of the course, the student will master the fundamental concepts of digital data communication, the design process and the overall operation of a communications network.
PROGRAM AND PROJECT MANAGEMENT	LAD4071	At the end of the course, the student will apply the techniques and tools of Project Management through a complete and coherent methodology, valid for any type of projects, including organizational, human and technical aspects.
MEDICAL BIOETHICS AND QUALITY IN HEALTH SERVICES	LMR3041	At the end of the course, the student will analyze the ethical values and legal norms that can be applied to related situations in health and life, extolling their importance in the professional practice of the doctor to safeguard the dignity and rights of people to their care, through a practice of quality and warmth in health services.
BIOMEDICAL INSTRUMENTATION II	LBM4021	At the end of the course, the student will provide basic information about the electronic instruments most often used in the hospital environment and the physiological and physical principles involved.
CONTROL LAB	LBM4031	At the end of the course, the student will apply the knowledge to model and design analog control systems in automation applications.
PROFESSIONAL PRACTICE I	LBM4041	At the end of the course, the student will put into practice the knowledge acquired in their studies to diagnose, plan, evaluate and take part in the solution of problems and situations of his profession, establishing a link between theory and practice, between the university and society, between their aspirations and the needs of the environment.

SECURITY AND HOSPITAL FACILITIES	LBM4011	At the end of the course, the student will design, calculate, advise, evaluate projects to manage or maintain hospital facilities.
CONTROL SYSTEMS	LIR4031	At the end of the course, the student will model, analyze, simulate and integrate physical control systems applied to electronic and mechatronic systems.
BIOMATERIALS	LBM4161	At the end of the course, the student will identify the different classes and properties of biomaterials that are used today in medical devices such as implants for the body or that are in contact with body fluids.
IMAGING	LMR3161	At the end of the course, the student will master the fundamentals of the knowledge of Imaging, analyze the functional alterations that occur in the disease and apply scientific reasoning with a critical attitude that correlates the knowledge of pathophysiology, prevention or failing that the appropriate diagnosis, treatment and rehabilitation.
BIOMEDICAL SYSTEMS LAB	LBM4171	At the end of the course, the student will analyze, design and design a biomedical measurement or diagnostic system and evaluate the results of the deliverable product derived from it in the form of a system, circuit, process, algorithm or methodology.
PROFESSIONAL PRACTICE II	LBM4151	At the end of the course, the student will put into practice the knowledge acquired in their studies to diagnose, plan, evaluate and take part in the solution of problems and situations of his profession, establishing a link between theory and practice, between the university and society, between their aspirations and the needs of the environment.
INTELLIGENT SYSTEMS	LIR3091	At the end of the course, the student will apply knowledge of fuzzy logic and genetic algorithms for applications in Control Systems and computerized decision devices.
SELECT TOPICS I	TBM4011	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.
SELECT TOPICS II	TBM4021	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.
SELECT TOPICS III	TBM4031	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.

CIVIL ENGINEERING

DRAWING APPLIED TO CIVIL ENGINEERING	**LIC1021**	At the end of the course the student will be able to demonstrate the mastery of different commands of computer-aided drawing, as well as concepts of scales, layer management, sizing and methodological and technological aspects to identify and solve problems with the help of this computer tool
ENGLISH I	**ESP0011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
BUILDING MATERIALS LAB	**LIC1011**	At the end of the course, the student will identify and distinguish the main mechanical properties of the most important materials in the construction industry, establishing the relationship with the function they perform and with quality control.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
BUILDING MATERIALS	**LAR2011**	At the end of the course, the student will identify the materials used in building; identify the various alternatives to be used in the different construction stages and establish the selection criteria for the most appropriate materials and construction elements.
PRECALCULUS	**MAT1041**	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	**MAT1051**	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.

CALCULUS I	**MAT1061**	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	**ESP0021**	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
TOPOGRAPHY LAB	**LIC1041**	At the end of the course, the student will carry out basic planimetric and altimetric surveys using current methods and technological resources, in addition to working as a team to develop solutions to basic topography problems.
FOREIGN LANGUAGE II	**LEX0121**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
CONSTRUCTION PROCEDURES	**LIC1051**	At the end of the course, the student will know the processes and procedures used in construction, identifying the various constructive stages and selecting the most appropriate method and elements for the construction process according to a chronological and procedural logic.
TOPOGRAPHY	**LIC1031**	At the end of the course, the student will be able to apply the different methods of measurement of horizontal and vertical distances to be able to carry out topographic surveys, in addition to using the methods of topographic survey to exercise his Profession with ethics and for the benefit of social development and care of the environment.
CALCULUS II	**MAT1071**	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
GEOMETRIC ROAD DESIGN	**LIC2021**	At the end of the course, the student will know the process of planning and design of a road based on standards and specifications, identifying the elements that make up the geometric design of an open road, and being able to project the different works and studies to be carried out in the design of a land road.

BASIC FACILITIES	**LAR3031**	At the end of the course, the student will establish the importance of electrical, hydraulic, sanitary and gas installations as the networks that provide service and enable the operation of an architectural project. They will identify the different characteristics and conditions of each type of installation and master the calculation methods and the most appropriate ways to integrate the facilities into the project.
INTRODUCTION TO STRUCTURAL ENGINEERING	**LIC2011**	At the end of the course, the student will be able to identify the different systems of forces that act on particles and rigid bodies to analyze their equilibrium conditions, as well as their fastening devices or union with other structural elements.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
BEHAVIOR OF MATERIALS I	**LIC2041**	At the end of the course, the student will apply the bases of the qualitative and quantitative analysis of the deformable solids to determine their behavior, resistance, rigidity and stability to different solicitations and/orcombinations of them, such as pure axial load, shear force and flector moment.
ORDINARY DIFFERENTIAL EQUATIONS	**MAT2051**	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve

		problems of initial values for linear differential equations and for integral-differential equations.
ISOSTATIC STRUCTURES	LIC2031	At the end of the course, the student will be able to identify the different structural elements and their internal and external linkages within the framework of their structural composition, as well as classify the structural systems according to their spatial idealization.
SOIL MECHANICS LAB	LIC2061	At the end of the course, the student will be able to perform standardized laboratory tests to characterize different types of soils, as well as to determine their mechanical properties of interest to a civil engineer.
SOIL MECHANICS I	LIC2051	At the end of the course, the student will identify and classify the different types of soils, distinguishing their properties, hydraulic, plastic and granulometric, allowing to determine the behavior of the soil in different conditions of stresses and hydraulic flow.
EARTHMOVING	LIC2071	At the end of the course, the student will be able to identify, analyze and organize the machinery and heavy type equipment involved in the movement of materials in high-volume Civil Engineering works, as well as their application in construction processes to save time and cost.
BEHAVIOR OF MATERIALS II	LIC3011	At the end of the course, the student will apply the bases of the qualitative and quantitative analysis of the deformable solids to determine their behavior, resistance, rigidity and stability to different solicitations and/or combinations of them, such as torsion, axial load and flexion, axial load and torsion, for which the generalized states of stresses and deformations must be previously determined.
CONSTRUCTION COSTS	LAR4021	At the end of the course, the student will apply the methodology used in the costing of an architectural project and master the different elements involved in its process, identifying the main manual and automated systems used to prepare a budget.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the

		relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
GENERAL HYDRAULICS	**LIC3021**	At the end of the course, the student will be able to operate the basic concepts of the properties of fluids in general and water, as well as solve problems related to hydrostatics, flow in pipes and in open channels.
GENERAL HYDRAULICS LAB	**LIC3031**	At the end of the course, the student will be able to identify and apply the experimental methodology as a support in the analysis and solution of hydraulic problems.
SOLIDS MECHANICS LAB	**LIM3051**	At the end of the course, the student will physically visualize the properties of the structural elements with respect to their behavior, strength, rigidity and stability when subjected to different loads.
SOIL MECHANICS II	**LIC3041**	At the end of the course, the student will identify and apply the concept of consolidation of a soil to determine its possible settlements and apply the concept of shear stress to characterize the behavior of the soil mass in situations of thrust, slope stability and compaction.
PROBABILITY AND STATISTICS	**MAT2061**	At the end of the course, the student will handle the basic concepts of statistics and probability and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.
MATRIX STRUCTURES ANALYSIS	**LIC3061**	At the end of the course, the student will apply the matrix method of rigidities (displacement method) for the analysis of flat reticular structures and analyze flat, asymmetrical and symmetrical reticular structures, such as armatures, beams and frames.
PAVEMENTS DESIGN AND CONSERVATION	**LIC3071**	At the end of the course, the student will identify the characteristics of the materials used in the structure of a pavement and apply the general concepts of pavement design to design, by different methodologies, flexible and rigid pavements.
PAVEMENT LAB	**LIC3081**	At the end of the course, the student will identify and use the test methods to characterize the physical properties of the asphalts and earthen materials used in the construction of roads and terraces.

GENERAL CHEMISTRY LAB	LQU1021	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.
WORK PLANNING AND CONTROL	LAR4091	At the end of the course, the student will master the different tools of planning and control of work as well as to identify the planning process as a fundamental part of the realization of the architectural work and to understand the organization of the work in time and cost as a valuable element for decision-making.
GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
DRINKING WATER AND SEWAGE SYSTEMS	LIC3051	At the end of the course, the student will identify, analyze and design the components of a drinking water system, a sanitary sewer and a storm sewer.
STEEL DESIGN	LIC4051	At the end of the course, the student will identify and apply the theoretical and experimental criteria on which the design methods are based by ultimate resistance efforts in steel structural elements and will interpret the design standards of steel structural elements according to the Construction Regulations of the Federal District and the standards and specifications of the American Institute for Steel Construction.
REINFORCED CONCRETE DESIGN	LIC4061	At the end of the course, the student will identify the behavior, mode and failure mechanism of reinforced concrete elements subjected to the most common solicitations and will apply the theoretical-experimental criteria on which the ultimate resistance method is based, for the dimensioning of structural elements of reinforced concrete.
HYDROLOGY	LIC4041	At the end of the course, the student will be able to solve problems related to the occurrence of precipitation, infiltration and evapotranspiration, and will apply the concepts and techniques necessary to solve problems related to the flow of groundwater, transit of avenues through vessels and channels and obtaining storms and design avenues.

WATER QUALITY LAB	**LIC4031**	At the end of the course, the student will use the Water Quality Laboratory equipment to evaluate the physical, chemical and biological characteristics of drinking and wastewater through standard tests, and will identify the processes and unit operations used for the conventional and advanced treatment of drinking and wastewater.
PROFESSIONAL PRACTICE I	**LIC4011**	At the end of the course, the student will be able to apply the knowledge acquired in his career to diagnose, plan, evaluate and take part in the solution of problems and situations of his profession, establishing a link between theory and practice, between the university and society, between his aspirations and the needs of his environment.
SELECT TOPICS I	**TIC4011**	At the end of the course, the student will be able to apply the knowledge acquired in their studies to address the topics of applications.
TREATMENT OF DRINKING AND WASTEWATER	**LIC4021**	At the end of the course, the student will identify the needs of treatment of drinking and residual water and will base the design of traditional treatment trains that allow a certain use of each of them.
ANALYSIS AND DESIGN OF HYDRAULIC USES	**LIC4081**	At the end of the course, the student will be able to solve problems related to the hydrological design of storage dams, sewers and bridges, as well as solve problems related to the analysis and selection of pumps and turbines.
COMPUTER-MADE STRUCTURAL DESIGN AND ANALYSIS	**LIC4091**	At the end of the course, the student will be able to apply a specialized computer program for Structural analysis and Design, to solve various practical examples of analysis and design by gravitational and accidental loads, both in concrete and steel structures.
FOUNDATIONS	**LIC4101**	At the end of the course, the student will distinguish the different types of solutions to foundation problems, selecting and geotechnically dimensioning surface, deep foundations or containment structures meeting the requirements of service and stability, analyzing load capacity and settlements.
PROFESSIONAL PRACTICE II	**LIC4071**	At the end of the course, the student will be able to apply the knowledge acquired in his career, to diagnose, plan, evaluate and take part in the solution of problems and situations of his profession, establishing a link between theory and practice, between the university and society.

SELECT TOPICS II	TIC4021	At the end of the course, the student will be able to apply the knowledge acquired in their studies to address the topics of applications.
SELECT TOPICS III	TIC4031	At the end of the course, the student will be able to apply the knowledge acquired in their studies to address the topics of applications.

INDUSTRIAL ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO INDUSTRIAL ENGINEERING	III1011	At the end of the course, the student will use basic industrial engineering tools to understand the profession, and describe some of the basic concepts and how they are used in professional practice.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.

QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
COMPUTER DRAWING	LIM1021	At the end of the course, the engineering student will have sufficient knowledge about technical drawing in engineering. The course helps the engineer in design, which can be used as a graphic solution to problems and to make schematics related to mechanisms, structural systems and pipe installations with engineering applications using CAD software as a tool.
ERGONOMICS	III1021	At the end of the course the student will apply the principles of ergonomics, industrial psychology and work organization, to obtain safe and efficient workstations.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
PHYSICS	FIS1011	At the end of the course, the student will handle the basic concepts related to Classical Mechanics, Electromagnetism and Optics formalizing the handling of the laws of Classical Physics.

INTRODUCTION TO PROGRAMMING	LIS1011	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.
MANUFACTURING PROCESS LAB	III2021	At the end of the course the student will identify the most relevant process parameters in some manufacturing processes, by observing them.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MANUFACTURING PROCESSES	III2011	At the end of the course, the student will select the ideal manufacturing process to manufacture a product to possess the characteristics required for the function it will perform. To do this, the student will: • Identify the different industries and their processes. Classify the various manufacturing processes and use criteria for process selection. • Describe the various casting processes, the differences between them and their applications. • Describe the various plastic deformation processes, the differences between them, the applications to different products and the different materials available. • Describe the various machining cutting processes, the differences between them, the applications to different products and the different materials available. Discriminate its use in different situations. • Identify the convenience of employing a complementary manufacturing process to obtain the desired attributes in the product.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
DATA ANALYSIS	III2051	At the end of the course, the student will gather, organize, describe and present univariate data in such a way that they can obtain the relevant information quickly and accurately, as well as use probability as a language and measure of uncertainty, and as a basis for decision-making.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well

		as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order using the methods of variation of parameters of indeterminate coefficients and power series; pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
ECONOMIC AND FINANCIAL ENGINEERING	III2031	At the end of the course, the student will identify and use the interest rate as an evaluation tool, schedule investments with the inclusion of time as a factor of analysis, define the different types of interest in the market and analyze their impact on the investment, distinguish the true cost of an interest rate in the investment, assess and direct financial requirements over time.
MATHEMATICAL PROGRAMMING METHODS I	III2061	At the end of the course, the student will solve problems of practical application in the field of industrial engineering related to linear programming. The student will learn and apply linear optimization methods and their fundamentals.
OPTIMIZATION METHODS AND MODELS	III2041	At the end of the course, the student will understand the mathematical programming models for the solution of practical application problems in engineering related to the optimization of resources or the solution of combinatorial problems; formulate problems of linear programming, nonlinear programming, quadratic programming, Integer and Combinatorial programming and constraint programming, related to practical application problems in engineering.
INFORMATION TECHNOLOGIES IN BUSINESS	LAD2041	At the end of this course, the student will value the strategic importance of information technologies in organizations and develop the skills to use them to support information systems operations, decision-making and to have a competitive advantage of organizations.

FACILITY DESIGN	III3041	At the end of the course, the student will analyze and design alternatives for the distribution of spaces to increase the efficiency of facilities and goods and services companies, considering the different requirements and flows of a facility.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
STATISTICAL INFERENCE	III3021	At the end of the course, the student will identify and analyze some distributions of common statistics, perform point and interval estimation of unknown parameters, tests of hypotheses referring to unknown parameters, from the information of a sample.
METHOD ENGINEERING	III3051	At the end of the course, the student will conduct time and movements studies to efficiently assign workload and evaluate the performance of workers.
MATERIAL HANDLING AND STORAGE	III3011	At the end of the course, the student will understand the main models related to the design and operation of warehouses, regional planning and problems related to distribution routes, formulating mathematical programming problems related to decision-making processes in the areas of storage, regional planning and vehicle routes.
MATHEMATICAL PROGRAMMING METHODS II	III3031	At the end of the course, the student will understand the advantages of using optimization tools in operational areas related to production, logistics and management; build entire programming models that support the decision-making process.
DESIGN OF MANUFACTURING SYSTEMS	III3071	At the end of the course, the student will understand the analytical principles of the design, analysis and control of manufacturing systems; integrate the concepts of variability and Stochastic analysis learned in other courses into the manufacturing environment.
SIMULATION LAB	III3111	At the end of the course the student will use the tools provided by the ARENA software, in the simulation of systems, for the analysis of information and timely decision-making.

COMPUTER-INTEGRATED MANUFACTURING	LIM3061	At the end of the course, the student acquires the competence to handle and apply the most modern technology available for manufacturing processes.
SAMPLING METHODS	III3081	At the end of the course, the student will select and apply the appropriate sampling method to a specific situation.
REGRESSION AND TIME SERIES	III3101	At the end of the course the student will discern the concepts of regression models, considering the mathematical foundations of the model and applying them to real cases, validating models using forecasting techniques and properly applying quantitative forecasting techniques, using the computer tools that are necessary to obtain the numerical results.
SYSTEM SIMULATION	III3061	At the end of the course, the student will analyze a system identifying its main components to develop a model that simulates its behavior, using a programming language (general purpose and/or specific purpose) and other support programs, to analyze and design alternatives to improve the performance of said system.
LEAN SYSTEMS	III3091	At the end of the course, the student will describe lean principles, the opportunities to apply them in different organizations and use the basic principles and some lean tools, as well as some quality tools.
QUALITY CONTROL	III4031	At the end of the course, the student will be able to understand and apply the different concepts, systems and control graphs, as a tool to achieve products and services of uniform quality, understand the operation of the Quality Control area in a manufacturing or service company.
DESIGN OF EXPERIMENTS	III4041	At the end of the course, the student will identify and apply the main concepts of the solution methods for some experimental designs.
LEAN MANUFACTURING	III4021	At the end of the course the student will apply the basic concepts of lean manufacturing, identifying the areas of application and using different ways to measure their performance.
INVENTORY MODELS	LIG4021	At the end of the course, the student will design inventory models to calculate optimal order quantities and requisition points, both in deterministic cases and in cases where there is uncertainty in demand and/or anticipation time.

PROFESSIONAL PRACTICE I	III4011	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of Industrial Engineering and solve situations of adaptation to a new work environment.
SELECT TOPICS I	TII4011	At the end of the course, the student will apply the knowledge acquired in their studies to deal in greater depth with some Industrial Engineering topics.
OPERATIONS MANAGEMENT CASES	III4061	At the end of the course, the student will identify and understand real problems and needs of the client or market, analyzing these problems from the perspective of complex systems. The solutions to these problems and needs are developed by thinking logically, conceptually, deductively and critically.
SUPPLY CHAIN MANAGEMENT	III4071	At the end of the course, the student will describe what a supply chain is and the essential elements for its correct administration.
PROFESSIONAL PRACTICE II	III4051	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of Industrial Engineering and solve situations of adaptation to a new work environment.
SIX SIGMA	III4081	At the end of the course, the student will develop the DMAIC methodology in practical problems to improve the quality of the processes.
SELECT TOPICS II	TII4021	At the end of the course, the student will apply the knowledge acquired in their studies to deal in greater depth with some of the topics in some area or areas of Industrial Engineering.
SELECT TOPICS III	TII4031	At the end of the course, the student will apply the knowledge acquired in their studies to deal in greater depth with some of the topics in some area or areas of Industrial Engineering.

MECHANICAL ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.

INTRODUCTION TO MECHANICAL ENGINEERING	**LIM1011**	At the end of the course, students who have adequately fulfilled the scheduled tasks, will be able to recognize, compare and explain in oral and written form, the different activities that a mechanical engineer can develop within the profession.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	**MAT1041**	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
GENERAL CHEMISTRY	**LQU1011**	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	**MAT1051**	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
CALCULUS I	**MAT1061**	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
MATERIALS SCIENCE I	**LIM1031**	At the end of the course, students who have adequately fulfilled the scheduled tasks, will be able to apply their knowledge to explain in oral and written form, the difference in the internal structure presented by the solid materials used in the engineering designs and relate this internal structure, with the properties of these materials.

COMPUTER DRAWING	LIM1021	At the end of the course, the engineering student will have sufficient knowledge about technical drawing in engineering. The course helps the engineer in design, which can be used as a graphic solution to problems and to make schematics related to mechanisms, structural systems and pipe installations with engineering applications using CAD software as a tool.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
METROLOGY LAB	LIM1041	At the end of the course, the student will adapt to different dimensional measurement instruments, according to the characteristics of the measurement and the requirements of the part to be measured.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
MATERIALS SCIENCE II	LIM2021	At the end of the course, students who have satisfactorily fulfilled the scheduled activities, will be able to explain in oral and written form, the difference in behavior exhibited by the steels used in the designs of equipment in engineering, because of the heat treatments that are applied to them.
STATICS	LIM2011	At the end of the course, the student will solve problems of static equilibrium of particles and rigid bodies, related to problems of design of equipment in engineering and to apply their knowledge of collaborative work, to integrate a group of people for the solution of static problems.
INTRODUCTION TO PROGRAMMING	LIS1011	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.

MATERIALS SCIENCE LAB	LIM2031	At the end of the course, students will be able to carry out experiments designed to demonstrate the mechanical properties of some materials, observe techniques to improve these properties from certain heat treatments and material processes.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
VECTOR CALCULUS	MAT2091	At the end of the course, the student will pose, solve and interpret problems that involve the concepts of trajectory, velocity vectors, acceleration, tangent, normal and binormal. Manage and interpret the concepts of gradient, divergence and rotational, as well as their interrelationships. Raise, solve and interpret problems involving line and surface integrals. Handle and interpret the theorems of Green, Stokes and Gaussian divergence. Calculate gradient, divergence, and rotational in rectangular, cylindrical, and spherical coordinate systems.
GENERAL KINEMATICS AND PARTICLE KINETICS	LIM2071	At the end of the course, the student will solve problems of kinematics of particles and rigid bodies; as well as particle kinetics, related to equipment design problems in engineering.
ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using

		tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
MANUFACTURING LAB I	**LIM2051**	At the end of the course, the student understands the theoretical and practical knowledge about the realization of the different basic manufacturing processes known as processes without chip start, the student will know in detail the basic manufacturing processes, starting with the theoretical concepts until arriving at the realization of these processes.
MANUFACTURING I	**LIM2041**	At the end of the course, students will be able to analyze the requirements and criteria for the selection and design of the casting, plastic deformation and welding processes. Having knowledge of the scientific bases of each of the processes stated and knowledge of each of the processes, their stages and advantages and disadvantages that are had when being used.
MECHANICS OF SOLIDS I	**LIM2061**	At the end of the course, the student will perform the analysis of solid bodies subject to static loads, to understand, explain and predict their behavior; calculation and interpretation of normal, shear stresses, linear-elastic, combined, main and column deformations.
KINETICS OF RIGID BODIES	**LIM3031**	At the end of the course, the student will handle the concepts of moment of inertia, rigid body dynamics, dynamic reactions and vibrations.
ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.

ECONOMIC AND FINANCIAL ENGINEERING	**III2031**	At the end of the course, the student will identify and use the interest rate as an evaluation tool, schedule investments with the inclusion of time as a factor of analysis, define the different types of interest in the market and analyze their impact on the investment, distinguish the true cost of an interest rate in the investment , assess and direct financial requirements over time.
MANUFACTURING LAB II	**LIM3021**	At the end of the course, the student will understand and perform the machining operations around, milling and drilling, applying their theoretical knowledge in the control of the cutting parameters, the sequence of operations and controlling the process variables, thus optimizing the processes.
SOLIDS MECHANICS LAB	**LIM3051**	At the end of the course, the student will physically visualize the properties of the structural elements with respect to their behavior, strength, rigidity and stability when subjected to different loads.
MANUFACTURE II	**LIM3011**	At the end of the course, the student will carry out the planning work consisting of looking for a solution to the manufacturing of a part, within a certain period and at a low production cost, taking into account the quality of the part, the production rate and the tools and cutting conditions , as well as the required machine tools.
SOLID MECHANICS II	**LIM3041**	At the end of the course, the student will calculate and interpret deformations in beams, stresses in non-straight beams, by impact, elasto-plastic deformations, concentrations of stresses, the application of fault theories, by temperature changes and in thin-walled pressure vessels.
PROBABILITY AND STATISTICS	**MAT2061**	At the end of the course, the student will handle the basic concepts of statistics and probability and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.

FINITE ELEMENTS	**LIM3101**	At the end of the course, the student will apply boundary conditions to FEM models, from loads to FEM models; meshing of FEM models, improvement of meshing of FEM models; the calculation of stresses using mechanics, of deformations by the use of mechanics, of stresses by the use of Patran/Nastran, of deformations by the use of Patran.
COMPUTER-INTEGRATED MANUFACTURING LAB	**LIM3091**	At the end of the course, the student will operate the Vertical Machining Center and the Numerical Control Lathe for the execution of programs generated manually and with the use of CAD /CAM (ProEngineer).
MECHANISMS LAB	**LIM3121**	At the end of the course, the student will identify the basic elements that form a mechanism, identify the types of kinematic pairs and determine the degree of mobility of these, analyze the movement of the mechanism, verify the stability and reliability of the mechanism through the construction of prototypes, simulate the movements of the mechanism using Creo® (Pro/Enginer) and simulate the results of the search for mechanisms that solve the proposed movements.
COMPUTER-INTEGRATED MANUFACTURING	**LIM3061**	At the end of the course, the student will use and apply the most modern technology available for manufacturing processes.
FLUID MECHANICS	**LIM3081**	At the end of the course, the student will analyze the variation of pressure in a static fluid and apply the Archimedean principle, analyze several common problems of fluid mechanics applying the theoretical equations of hydrodynamics both integrally and differentially, analyze problems of viscous flows and the concept of the boundary layer.
MECHANISMS	**LIM3111**	At the end of the course, the student will identify the structure of the mechanisms, cams, gears and gear tresnes; analyze speeds, accelerations, static and dynamic forces and includes the use of cams, gears and tresns of gears.
BASIC THERMODYNAMICS	**LIM3071**	At the end of the course, the student will master the basic concepts of thermodynamics, evaluate thermodynamic properties, analyze processes, apply the principles of energy conservation and review the second law of thermodynamics and entropy.

DESIGN OF MACHINE ELEMENTS	LIM4031	At the end of the course, the student will calculate and interpret, the design of shafts, non-threaded joining elements, threaded joint and power screws, springs, bearings and bearings, transmissions with band and chain, gears.
FUNDAMENTALS OF HEAT TRANSFER	LIM4041	At the end of the course, the student will know and evaluate the heat transfer by one-dimensional and transient conduction, the heat transfer by forced, natural and phase change convection, the heat transfer by radiation and the different types of heat exchangers, analyze and evaluate the performance of the same.
THERMAL SCIENCES LAB	LIM4051	At the end of the course, the student will interpret the first and second laws of thermodynamics, the cooling and power generation cycles, the heat transfer modes, some of their mathematical models and equations, and the real application of the previous phenomena applied in equipment and Thermal Machines.
PROFESSIONAL PRACTICE I	LIM4011	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different Mechanical Engineering areas and solve situations of adaptation to a new work environment.
SELECT TOPICS I	TIM4011	At the end of the course, the student will apply the knowledge acquired in their studies to deal in greater depth in Mechanical Engineering topics.
SELECT TOPICS II	TIM4021	At the end of the course, the student will apply the knowledge acquired in their studies to deal in greater depth in Mechanical Engineering topics.
APPLIED THERMODYNAMICS	LIM4021	At the end of the course, the student will analyze and evaluate the power cycles and calculate their efficiencies, cooling cycles and calculate their performance coefficients, gas and gas and steam mixtures and apply them to air conditioning systems, analyze the laws of thermodynamics in systems that have chemical reaction , particularly in combustion and compressible flow.
DESIGN OF MECHANICAL SYSTEMS	LIM4081	At the end of the course, the student will use the rudimentary design process to determine the optimal solution of a requirement, the integration of machine components to functional assemblies, the animation of assemblies by CAD, the calculation of critical reactions

		by CAD, critical efforts by FEM and the optimization of machine components by CAD and FEM.
ELECTRO-OLEO-PNEUMATIC SYSTEMS LAB	LIM4111	At the end of the course, the student will analyze the movements of a system, being able to assemble a circuit, apply the laws of Pascal, Boyle and Charles, to understand the principles of transmissibility, compressibility and stability of some system.
VIBRATION LAB	LIM4071	At the end of the course, the student will identify the harmonic analysis of signals, the free vibrations of systems with a degree of freedom, forced of systems with a degree of freedom, free of systems with more degrees of freedom, forced of systems with more degrees of freedom, rope, beam and analysis of the vibrations of a machine.
PROFESSIONAL PRACTICE II	LIM4061	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different Mechanical Engineering areas and solve situations of adaptation to a new work environment.
ELECTRO-OLEO-PNEUMATIC SYSTEMS	LIM4101	At the end of the course, the student will identify the principles of fluid mechanics, in valves, pumps, hydraulic and pneumatic cylinders, semi-rotary motors and actuators and equipment for electronic control.
SELECT TOPICS III	TIM4031	At the end of the course, the student will apply the knowledge acquired in their studies to deal in greater depth in Mechanical Engineering topics.
VIBRATIONS	LIM4091	At the end of the course, the student will identify the systems of one degree of freedom, the forced vibration of systems of a single degree of freedom, the measurement of vibrations, the systems of two degrees of freedom and several degrees of freedom, the vibrations of systems with distributed mass and the application of finite element to the vibrations of structures.

MECHATRONICS ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO MECHATRONICS ENGINEERING	LMT1011	At the end of the course, the student will identify the disciplinary areas that makeup mechatronics to make applications in all areas of engineering.
INTRODUCTION TO PROGRAMMING	LIS1011	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
DIGITAL DESIGN	LIR1031	At the end of the course, the student will identify and manage the binary number system to design combinational and sequential digital circuits.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.

DIGITAL DESIGN LAB	LIR1041	At the end of the course, the student will design, simulate and integrate combinational and sequential logic circuits with applications in digital electronics.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
OBJECT-ORIENTED PROGRAMMING	LIS1031	At the end of the course, the student will design and program with the object-oriented paradigm, and to know and apply design techniques, UML notation (UNIFIED MODELING LANGUAGE) and the Java or C# programming language.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
ELECTRICAL CIRCUITS	LMT2011	At the end of the course, the student will apply the techniques of analysis of Electrical Circuits to design applications.
COMPUTER DRAWING	LIM1021	At the end of the course, the engineering student will have sufficient knowledge about technical drawing in engineering. The course helps the engineer in design, which can be used as a graphic solution to problems and to make schematics related to mechanisms, structural systems and pipe installations with engineering applications using CAD software as a tool.
STATICS	LIM2011	At the end of the course, the student will solve problems of static equilibrium of particles and rigid bodies, related to problems of design of equipment in engineering and to apply their knowledge of collaborative work, to integrate a group of people for the solution of static problems.
ELECTRICAL CIRCUITS LAB	LMT2021	At the end of the course, the student will identify, design, synthesize and analyze Electrical Circuits.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.

ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
GENERAL KINEMATICS AND PARTICLE KINETICS	LIM2071	At the end of the course, the student will solve problems of kinematics of particles and rigid bodies; as well as particle kinetics, related to equipment design problems in engineering.
ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
ELECTROMAGNETISM	FIS3011	At the end of the course, the student will understand the electrical and magnetic phenomena, analyze everyday situations to abstract the phenomena studied and solve problems related to them. In addition, it will be able to translate the studied processes into the language of mathematics to quantify them.
ANALOG ELECTRONICS	LMT2041	At the end of the course, the student will analyze and design analog electronic circuits that serve as a tool in the conditioning of signals that allow the automation of mechatronic systems.
ANALOG ELECTRONICS LAB	LMT2051	At the end of the course, the student will describe the operation, build and evaluate analog electronic circuits that can be used in the conditioning of signals that allow the automation of mechatronic systems.
MATERIAL PROPERTIES	LMT2031	At the end of the course, the student will identify the properties of common materials and explain their structure, processing, manufacture and behavior of different classes for their engineering applications.
VECTOR CALCULUS	MAT2091	At the end of the course, the student will pose, solve and interpret problems that involve the concepts of

		trajectory, velocity vectors, acceleration, tangent, normal and binormal. Manage and interpret the concepts of gradient, divergence and rotational, as well as their interrelationships. Raise, solve and interpret problems involving line and surface integrals. Handle and interpret the theorems of Green, Stokes and Gaussian divergence. Calculate gradient, divergence, and rotational in rectangular, cylindrical, and spherical coordinate systems.
KINETICS OF RIGID BODIES	**LIM3031**	At the end of the course, the student will handle the concepts of moment of inertia, rigid body dynamics, dynamic reactions and vibrations.
DIGITAL ELECTRONICS	**LMT3011**	At the end of the course, the student will describe the characteristics of modern digital electronic technology and propose its use in mechatronic systems.
ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
DIGITAL ELECTRONICS LAB	**LMT3021**	At the end of the course, the student will analyze, design, build and test digital systems that can be applied in the construction of mechatronic systems.
PROGRAMMING LANGUAGES AND PARADIGMS	**LIS2051**	At the end of the course, the student will identify and apply the existing programming languages and paradigms, selecting the most appropriate ones for the various problems that arise.
PROBABILITY AND STATISTICS	**MAT2061**	At the end of the course, the student will handle the basic concepts of statistics and probability and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.

TECHNOLOGICAL INNOVATION	INF2011	At the end of the course, the student will identify and apply the fundamental concepts and methodologies for the development of technological innovations, particularly through the work in multidisciplinary teams.
INSTRUMENTATION AND SIGNAL PROCESSING	LMT3041	At the end of the course, the student will apply the basic concepts of measuring physical signals and distinguish between the main functions performed by the measuring instruments.
INSTRUMENTATION AND SIGNAL PROCESSING LAB	LMT3061	At the end of the course, the student will identify, master and test elements and techniques to make applications in mechatronic systems.
MECHANISMS LAB	LIM3121	At the end of the course, the student will identify the basic elements that form a mechanism, identify the types of kinematic pairs and determine the degree of mobility of these, analyze the movement of the mechanism, verify the stability and reliability of the mechanism through the construction of prototypes, simulate the movements of the mechanism using Creo® (Pro / Enginer) and simulate the results of the search for mechanisms that solve the proposed movements.
MECHANICS OF SOLIDS I	LIM2061	At the end of the course, the student will perform the analysis of solid bodies subject to static loads, to understand, explain and predict their behavior; the calculation and interpretation of normal, shear stresses, linear elastic, combined, main and column deformations.
MANUFACTURING SYSTEMS	LMT3031	At the end of the course, the student will apply, define and classify the manufacturing processes most appropriate to the process of integration of a production line.
THERMOFLUIDS	LMT3051	At the end of the course, the student will identify the principles of fluid statics, analyze the variation of pressure in a static fluid, apply the hydrodynamic equations in an integral way, analyze flows by tubes, review the flow around a submerged body and analyze the drag and lift forces.
PROGRAM AND PROJECT MANAGEMENT	LAD4071	At the end of the course, the student will apply the techniques and tools of Project Management through a complete and coherent methodology, valid for any type of projects, including organizational, human and technical aspects.

MECHATRONIC SYSTEMS LAB	LMT4021	At the end of the course, the student will apply the theoretical knowledge to perform applications of electrical machines manipulated with Control Systems.
ELECTRICAL MACHINES	LIR4041	At the end of the course, the student will select, operate and maintain electrical machines such as transformers, motors, generators for different applications.
PROFESSIONAL PRACTICE I	LMT4011	At the end of the course, the student will put into practice the knowledge acquired in his career to diagnose, plan, evaluate and take part in the solution of problems and situations of his profession, establishing a link between theory and practice, between the university and society, between his aspirations and the needs of his environment.
AUTOMOTIVE NETWORKS	LIR4021	At the end of the course, the student will analyze, manage and understand the operation of a data network applied to automotive distributed systems.
CONTROL SYSTEMS	LIR4031	At the end of the course, the student will model, analyze, simulate and integrate physical control systems applied to electronic and mechatronic systems.
SELECT TOPICS I	TMT4011	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.
INDUSTRIAL AUTOMATION	LIR4071	At the end of the course, the student will design, analyze, identify and integrate practical solutions for the management of automated systems.
POWER ELECTRONICS	LIR4081	At the end of the course, the student will design, build and test power electronics systems in different automation, home automation and robotics applications.
AUTOMATION LAB	LMT4031	At the end of the course, the student will design, analyze and implement applications that use programmable logic controllers (PLC's) and oleonumatic elements in industrial automation.
PROFESSIONAL PRACTICE II	LMT4041	At the end of the course, the student will put into practice the knowledge acquired in his career to diagnose, plan, evaluate and take part in the solution of problems and situations of his Profession, establishing a link between theory and practice, between the university and society.

ROBOTICS	LMT4051	At the end of the course, the student will analyze the kinematic and dynamic aspects to program a manipulator robot.
SELECT TOPICS II	TMT4021	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.
SELECT TOPICS III	TMT4031	At the end of the course, the student will apply the knowledge acquired in their studies to address the topics of applications.

CHEMICAL ENGINEERING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO CHEMICAL ENGINEERING	LQI1011	At the end of the course, the student will identify the different fields of application of Chemical Engineering. In this way the student has the appropriate motivation for the development of the academic work. On the other hand, the student will locate himself correctly within the University to make proper use of the services and have an integration to the career.
GENERAL CHEMISTRY LAB	LQU1021	At the end of the course, the student will demonstrate the skill acquired to manipulate material and basic lab instruments to determine physical properties, performing calculations to prepare solutions, applying separation methodologies and observing good laboratory practices.
FOREIGN LANGUAGE	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.

GENERAL CHEMISTRY	LQU1011	At the end of the course, the student will correctly understand and handle the essential topics of chemistry, such as the properties of matter, its chemical and physical characteristics, quantum theory and electronic structure, the energetic and dynamics of chemical reactions and the conditions of chemical equilibrium.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
MATTER BALANCE	LQI1021	At the end of the course, the student will develop a clear and systematic methodology to formulate and resolve the Matter Balances for different processes.
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
INTRODUCTION TO DESIGN IN CHEMICAL PROCESS ENGINEERING	LQI1031	At the end of the course, the student will identify how engineers face and solve problems, increasing their awareness and interest in the types of problems faced by the engineer(s). The purpose of the course is to introduce students to the Engineering Method focusing on six major goals: self-regulation, communication, cooperative work, problem solving, modeling and quality.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on

		the transformation of models, conceptualization of cultural artifact and its conservation.
ENERGY BALANCES	**LQI2011**	At the end of the course, the student will formulate and resolve the energy balance by identifying the different forms of energy interactions, between a system and its surroundings, through its borders, energy transfers such as heat and work, to achieve changes in internal energy. Using properties information using tables, thermodynamic diagrams and some predictive methods ideal for pressure-volume-temperature (PVT) properties, heat capacity at constant pressure and volume (Cp, Cv), ideal properties, internal energy (U), enthal power(H); learn and develop a clear and systematic methodology to solve energy balances for different process equipment.
CALCULUS II	**MAT1071**	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
THERMOPHYSICAL PROPERTIES LAB	**LQI2021**	At the end of the course, the student will handle laboratory equipment and accessories; as well as to interpret the results obtained, by relating them to the basic knowledge of thermodynamics.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ORGANIC CHEMISTRY I	**LQU1051**	At the end of the course, the student will distinguish the different functional groups and structures of organic compounds and identify different organic reactions and their mechanisms, properly manage nomenclature, stereochemistry, structure and reactivity in acid-base processes.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.

ENTROPY BALANCES	LQI2031	At the end of the course, the student will perform a systematic analysis of thermodynamic processes using the principles of thermodynamics; formulate and resolve the balance of entropy and energy for the different forms of interactions or energy transfers between a system, its surroundings and the environment.
ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
PHYSICS	FIS1011	At the end of the course, the student will handle the basic concepts related to Classical Mechanics, Electromagnetism and Optics formalizing the handling of the laws of Classical Physics.
ADVANCED THERMOPHYSICAL PROPERTIES LAB	LQI2041	At the end of the course the student will formulate and solve the balance of entropy, using information of thermophysical properties using tables, thermodynamic diagrams and some predictive methods ideal for generating thermodynamic diagrams of internal energy (U), pressure-enthalhy (PH), temperature-entropy (TS) and pressure-volume (PV; to apply the systematic methodology for thermodynamic analysis of processes.
ANALYTICAL CHEMISTRY LAB	LQU2061	At the end of the course, the student will manipulate the material and laboratory equipment used in Analytical Chemistry, knowing the chemical analysis techniques commonly used in quality control laboratories.

ANALYTICAL CHEMISTRY	LQU2051	At the end of the course, the student will identify the principles of Analytical Chemistry and apply them to problem solving in chemistry and related disciplines such as the biological and health sciences.
FREE ENERGY BALANCES	LQI3031	At the end of the course the student will identify the thermodynamics of multicomponent mixtures and the conditions for the transfer of mass to thermodynamic equilibrium, to describe the equilibrium in multicomponent and multiphase systems, as well as models to predict the equilibrium constants of the components in the heterogeneous system and to calculate for systems with chemical reaction the effect of temperature and pressure on the equilibrium constants of systems of a reaction or various reactions.
ECONOMIC AND FINANCIAL ENGINEERING	III2031	At the end of the course, the student will identify and use the interest rate as an evaluation tool, schedule investments with the inclusion of time as a factor of analysis, define the different types of interest in the market and analyze their impact on the investment, distinguish the true cost of an interest rate in the investment , assess and direct financial requirements over time.
PHASE EQUILIBRIUM LAB	LQI3071	At the end of the course, the student will handle laboratory equipment and accessories, as well as having the ability to interpret the results obtained by relating them to the basic knowledge of Thermodynamics; experimentally determine various parameters necessary for the calculation of equilibrium constants for the components in their mixtures and chemical reactions and to use the Aspen Plus software and numerical methods to reproduce experimental data of equilibrium constants for the components in their mixtures.
TRANSPORT PROCESS LAB I	LQI3051	At the end of the course, the student will identify, operate and experiment with equipment, at the pilot plant level, related to the processes of transport of moment and heat to interpret the results and evaluate their performance; to relate this knowledge with the knowledge of the Transport Processes I course.
MODELING AND SIMULATION IN CHEMICAL PROCESS ENGINEERING	LQI3021	At the end of the course, the student will apply the general concepts of programming, to develop a formal methodology for solving problems with computational tools, defining an algorithm and to properly manage Excel as an interactive numerical software, as well as a VBA or Matlab programming language, which allows him

		to solve process problems in chemical, food and/or environmental engineering.
PROPERTY PREDICTION	**LQI3061**	At the end of the course, the student will describe and develop the equations of pressure-volume-temperature (PVT) properties and ideal and real thermodynamics in one and two fluid phases of pure compounds; to apply the methods for the estimation and prediction of these properties from: experimental data, equations of state and the principle of corresponding states, as well as to develop mixing rules to predict and estimate PVT and thermodynamic properties of multicomponent mixtures.
TRANSPORT PROCESSES I	**LQI3041**	At the end of the course, the student will identify the mechanisms of the processes of transport of moment and heat to use them in the associated transfer processes and apply them to the solution of industrial and environmental problems.
SAFETY IN THE CHEMICAL PROCESS INDUSTRY	**LQI3011**	At the end of the course, the student will identify the conceptual and application foundations of safety and protection of the work environment in industries; it is also able to identify the theoretical and legal foundations of occupational safety, process safety and occupational hygiene applicable to the chemical industry, including the associated regulations and computational models and tools for the application of safety systems in industries.
KINETICS AND HOMOGENEOUS REACTORS	**LQI3091**	At the end of the course, the student will apply the laws and general principles related to any chemical transformation of reactive substances into products, to properly design and operate homogeneous chemical reactors.
STATISTICAL CONTROL OF PRODUCTS AND PROCESSES	**LQI3081**	At the end of the course, the student will understand and apply the principles of Probability and Statistics to solve practical problems in chemical, food and environmental engineering, to know and develop the skills to handle computational tools with statistical applications for data analysis; in addition to interpreting the data and graphs with statistical estimators, statistical inferences and regression analysis.
CHEMICAL DESIGN	**LQI3151**	At the end of the course, the student will conceive and design sustainable products, services and experiences from the search for unmet needs of society using

		creativity; to create prototypes and to use laboratory and simulation equipment.
UNITARY OPERATIONS LAB	**LQI3131**	At the end of the course, the student will identify, operate and experiment with equipment, at the pilot plant level, related to fluid flow to interpret the results and evaluate their performance, in relation to the knowledge of the Unitary Fluid Flow Operations course.
TRANSPORT PROCESS LAB II	**LQI3141**	At the end of the course, the student will identify and operate equipment at the pilot plant level related to the transport processes and interpret the results and evaluate their performance, relating them to the knowledge of the Transport Processes II course.
FLUID FLOW UNIT OPERATIONS	**LQI3111**	At the end of the course, the student will identify the behavior of the fluids and to design transfer processes in tubes, ducts and their accessories.
UNITARY HEAT TRANSFER OPERATIONS	**LQI3121**	At the end of the course, the student will use the mechanisms of the heat transport processes in the associated transfer processes and apply them to the solution of industrial and environmental problems.
TRANSPORT PROCESSES II	**LQI3101**	At the end of the course, the student will identify the mechanisms of the mass transport processes and to apply them in the associated transfer processes; and to calculate solutions to industrial and environmental problems.
CATALYSIS AND HETEROGENEOUS REACTORS	**LQI4051**	At the end of the course, the student will combine the models of ideal reactors in a phase with the presence of catalysts in the reactions, to understand the mathematical models that describe the operation of heterogeneous reactors and to calculate these reactors.
PROCESS ENGINEERING	**LQI4031**	At the end of the course, the student will specify the input and output interface of a sequential modular process simulator as a tool to make the analysis and evaluation of a topology of a flowchart of a chemical process at certain operating conditions; and to perform the Matter Balances, energy and entropy of the same as well as to calculate the thermodynamic properties, the balance of phases and the parameters of heat transfer and work in each of the equipment.

PROCESS ENGINEERING LAB	**LQI4041**	At the end of the course, the student will use the available sequential modular simulators to simulate chemical processes, analyze a process flow diagram and specify their operating conditions.
UNITARY MASS TRANSFER OPERATIONS	**LQI4021**	At the end of the course, the student will master the fundamentals of unitary operations involving mass transfer in fluid phases in equilibrium stages; describe the principles and to calculate with different methods the design of distillation, absorption, extraction and humidification equipment.
PROFESSIONAL PRACTICE I	**LQI4011**	At the end of the course, the student will apply the knowledge acquired in the previous courses and develop experience, documentation and reporting, process analysis and projects in the industry through professional practices or research activities in their field.
ENVIRONMENTAL PROTECTION IN THE CHEMICAL INDUSTRY	**LIN4021**	At the end of the course, the student will identify the conceptual foundations and select the methods for the application of safety and environmental protection in industries; describe the theoretical and legal foundations of safety and environmental protection in industries, including the associated regulations; use and calculate, with models and computational tools, simulations and methods to solve environmental protection problems in industries.
SELECT TOPICS I	**TQI4011**	At the end of the course, the student will apply the knowledge acquired in his studies on Chemical Engineering topics, to address specific problems and propose innovative technical solutions.
CHEMICAL PLANT DESIGN	**LQI4091**	At the end of the course, the student will apply the necessary knowledge for the design of the process of a chemical industrial facility where the material is treated for its transformation into useful products; specify industrial safety and the treatment of polluting wastes. In each specific case, the student will analyze and specify the most important steps of the process towards the development of a design, both in their preliminary considerations, and in the detailed engineering calculations; analyze data and plans of real industrial processes; elaborate, stage by stage, the calculations and diagrams necessary for the completion of a project and to establish the design bases, of developing the basic engineering, calculating the equipment and

		apparatus and of elaborating their respective specification sheets.
DYNAMICS AND PROCESSES LAB	**LQI4101**	At the end of the course, the student will apply the different methods for the synthesis and evaluation of chemical processes; analyze the dynamic behavior of the different unit operations in a chemical plant and to specify processes using computer programs for the simulation of processes.
LAB OF ADVANCED UNITARY MASS TRANSFER OPERATIONS	**LQI4081**	At the end of the course, the student will select and use equipment at the pilot plant level related to mass transfer operations to interpret the results and evaluate their performance; in relation to the knowledge of the Advanced Mass Transfer Operations course.
ADVANCED UNIT MASS TRANSFER OPERATIONS	**LQI4071**	At the end of the course, the student will master the fundamentals of unitary operations involving mass transfer in the presence of a solid phase or barrier; identify the principles and to design with different methods: drying equipment, crystallization, adsorption, ion exchange and separation with membranes.
PROFESSIONAL PRACTICE II	**LQI4061**	At the end of the course, the student will apply the knowledge acquired in the previous courses and develop experience, documentation and reporting, process analysis and projects in the industry through professional practices or research activities in their field.
SELECT TOPICS II	**TQI4021**	At the end of the course, the student will apply the knowledge acquired in his studies on Chemical Engineering topics, to address specific problems and propose innovative technical solutions.
SELECT TOPICS III	**TQI4031**	At the end of the course, the student will apply the knowledge acquired in his studies on Chemical Engineering topics, to address specific problems and propose innovative technical solutions.

LICENCIATURA IN BUSINESS ADMINISTRATION

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
MARKETING FUNDAMENTALS	LMK1011	At the end of the course, the student will identify the principles and key elements of marketing (product, price, place and promotion) to develop a market strategy, to create value for customers.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS I	MAT1021	At the end of the course, the student will properly handle the basic algebraic concepts. Propose and solve systems of equations that represent problems of percentages and calculation of interests, as well as master trigonometric mathematical tools to pose and solve geometric problems.
ADMINISTRATION PERSPECTIVES	LAD1011	At the end of the course, the student will analyze the theories of the administrative process, define its advantages and weaknesses and study some theoretical alternatives that can solve such deficiencies. Additionally, they will recognize the impact of business decisions on social responsibility and internationalization strategies.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
CONSUMER BEHAVIOR	LMK1021	At the end of the course, the student will understand consumer behavior in marketing practice, understand the training and change of attitudes in them, achieve an effective segmentation of the market, as well as identify the influence of contextual factors in purchasing behavior, so that it identifies the different models of the consumer's purchase process.
HUMAN BEHAVIOR IN ORGANIZATIONS	LAD1021	At the end of the course, the student will develop and promote the understanding of the dynamics of people in organizations, to conduct themselves in an assertive

		way in their interactions and thus contribute to organizational objectives.
FINANCIAL ACCOUNTING	**LFP1011**	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
SPANISH II	**ESP0021**	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	**LEX0121**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS II	**MAT1031**	At the end of the course, the student will adequately handle the fundamental concepts of differential and integral calculus, solve problems of business cases, problems applied to the economic-administrative and social area, and represent the behavior of surpluses of consumers and producers and give solution to problems of a business nature.
PRINCIPLES OF MICROECONOMICS	**ECO1011**	At the end of the course, the student will handle the basic elements of economic analysis emphasizing its application to consumer and business decision-making.
STATISTICAL ANALYSIS	**MAT2011**	At the end of the course, the student will apply the basic tools of descriptive statistics in various practical problems, calculating elementary probabilities, identifying and properly applying the most elementary models of probability to practical problems, in addition to managing the main distributions and confidence intervals.
COMMUNICATION AND CORPORATE IDENTITY	**LAD2011**	At the end of the course, the student will identify the communication process within the organizations, designing and acquiring instruments for the realization of an internal communication plan; implement these tools and follow up on a communication plan.
COST ACCOUNTING	**CON1011**	At the end of the course, the student will apply and master the way to determine the cost of production and to design a cost system in a company, understanding

		that costs represent one of the most important lines in the operation and management of a company.
STRATEGIC HUMAN RESOURCES MANAGEMENT	**LAD2021**	At the end of the course, the student will analyze and apply the most important concepts and functions of the strategic direction of human resources within organizations and to develop skills to solve problems of human resources management.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
FINANCIAL MANAGEMENT	**CON2011**	At the end of the course, the student will analyze, identify and argue the role of the financial manager within companies, the different ways in which they operate, the basic tools of financial analysis and Planning, the evaluation of financial performance through the analysis of financial reasons and cash flow, the structure of the asset and the financial structure. It is also capable of analyzing the determinants of the valuation of financial assets, the value of money over time, risk and performance analysis and the characteristics and forms of valuation of fixed income securities and common shares in the national and international markets.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
ENTREPRENEURIAL CULTURE	**LAD2051**	At the end of the course, the student will formulate, plan and implement a new business initiative, using methods and tools that allow them to approach it as an entrepreneur.
MARKET RESEARCH	**LMK2061**	At the end of this course, the student will understand the importance of market research as a fundamental tool for organizations; they will know the fundamental guidelines for research designs and measurement methods to understand problems related to the commercialization of goods and services; and finally,

		they will do a quantitative market research to provide accurate and relevant information about a product or service to reduce uncertainty in decision-making.
FORECASTING METHODS	MAT2081	At the end of the course, the student will measure forecasting methods through Residual analysis, to identify and correctly apply stationary and seasonal and non-seasonal trend methods and regression methods for seasonal series, and to construct forecast prediction intervals.
PRINCIPLES OF MACROECONOMICS	ECO1021	At the end of the course, the student will identify, define and use the main variables of the short- and long-term macroeconomic analysis.
INFORMATION TECHNOLOGIES IN BUSINESS	LAD2041	At the end of this course, the student will value the strategic importance of information technologies in organizations and develops the skills to use them to support information systems operations, decision-making and the competitive advantage of organizations.
CREATION OF COMPANIES	LAD3031	The student will identify the steps and requirements to establish a new business, in addition to strengthening their entrepreneurial potential through the development of skills that allow them to conceive, identify, evaluate and select feasible opportunities and business models creating innovative proposals individually and collaboratively, managing ambiguity and uncertainty, seeking to generate the greatest possible value with social responsibility.
CORPORATE LAW	LDE3031	At the end of the course, the student will establish in writing a strategic plan for the prevention and management of risks of a company and, where appropriate, propose the means for their legal defense.
E-BUSINESS	LAD3011	At the end of the course, the student will distinguish the key elements and technologies of E-Business and to apply Internet technologies to the processes of the company.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.

EVALUATION OF INVESTMENT PROJECTS	CON3031	At the end of the course, the student will identify, analyze and outline the tools and methods to evaluate investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk, as well as to define and develop evaluation methods, considering market factors, technical , administrative, legal, financial, economic and social giving greater emphasis to the financial and economic study.
DECISION MODELS	LAD3021	At the end of the course, the student will identify the type of linear programming model to be used for problem solving in industry and in the company.
OPERATIONS MANAGEMENT	LAD3051	At the end of the course, the student will apply the theoretical and practical knowledge related to the different areas of Operations Management and will apply the knowledge acquired in the solution of problems within a managerial context.
KNOWLEDGE MANAGEMENT	LAD3061	At the end of the course, the student will assess the strategic importance of knowledge in organizations and develop the skills to promote its creation, capture, coding, storage and use.
COMPREHENSIVE MARKETING COMMUNICATION	LMK2021	At the end of the course, the student will understand the importance of communicating to the customer the products or services offered, through the different tools of integral marketing communication and to apply the knowledge and tools that allow him to analyze and carry out integral communication campaigns.
GLOBAL BUSINESS ENVIRONMENT	LNI3011	At the end of the course, the student will identify the theoretical bases of globalization and the operations of international companies; to identify and analyze the unchecked variables of the environment that have a significant impact on international business, decision-making and strategic action and will propose strategies and solutions that are compatible with the situation of the company within the global business context.
LEADERSHIP AND TEAM MANAGEMENT	LAD3041	At the end of the course, the student will identify in depth the most appropriate leadership styles according to the type of organization and review the skills necessary to perform properly in positions of personnel management, to create and manage work teams that allow to solve problems related to human resources.
BUSINESS PLAN	LAD3071	At the end of the course, the student will develop a business plan for the creation of a company, to

		communicate plans, strategies and tactics to the managers, partners or investors of a business or the establishment of clear goals and objectives in a business unit for a given period, as well as the details for its implementation and monitoring.
SUPPLY CHAIN MANAGEMENT	**LAD4031**	At the end of the course, the student will design a supply chain strategy aligned with the corporate strategy of the organization.
CHANGE MANAGEMENT	**LAD4021**	At the end of the course, the student will master the change and organizational development and know the necessary tools to effectively manage the social changes that occur in the organizational systems and subsystems.
LABOR LAW	**LDE1031**	At the end of the course, the student will apply in specific cases the rights and obligations that workers and employers have reciprocally; analyze the negotiation of a strike from the worker or employer perspective as well as identify and resolve legal problems related to the interpretation and application of the rules that regulate worker-employer relations with support in doctrine and jurisprudence.
BUSINESS STRATEGIES	**LAD4041**	At the end of the course, the student will think strategically about the company, its current position, long-term vision, its resources and capabilities, competitive capabilities, strategic approach and opportunities to achieve sustainable competitive advantages.
PROFESSIONAL PRACTICE I	**LAD4011**	At the end of the course, the student will integrate the knowledge acquired throughout his academic training to develop proposals for solutions to business problems, as well as the academic exploration of phenomena of interest that arise in the business environment.
SELECT TOPICS I	**TAD4011**	At the end of the course, the student will know and analyze in depth the selected topics on entrepreneurship and its application in business, to keep updated on the opportunities and impacts of the topics analyzed for business administration professionals.
PROGRAM AND PROJECT MANAGEMENT	**LAD4071**	At the end of the course, the student will apply the techniques and tools of Project Management through a complete and coherent methodology, valid for any type of projects, including organizational, human and technical aspects.

PROFESSIONAL PRACTICE II	LAD4051	At the end of the course, the student will apply the academic knowledge in business administration for the diagnosis and resolution of problems in organizations, with a critical and creative attitude, with objectivity, ethics and social responsibility.
CORPORATE SOCIAL RESPONSIBILITY	LAD4081	At the end of the course, the student will analyze the role of the company as a creator of shared value, not only economic but social; to define the social initiatives and programs that have a greater impact for the company and society and has the tools and knowledge to prepare a report and social balance for the company.
SIMULATION IN THE COMPANY	LAD4061	At the end of the course and based on their experiences with simulation games and business simulators, the student will develop the ability to create models that facilitate the analysis of strategic problems based on the modeling and simulation of them.
SELECT TOPICS II	TAD4021	At the end of the course, the student will know and analyze in depth the selected topics on international business, to keep it updated on the opportunities and impacts of the topics analyzed for business administration professionals.
SELECT TOPICS III	TAD4031	At the end of the course, the student will know and analyze in depth the selected topics on marketing and its use in business, to keep it updated on the opportunities and impacts of the topics analyzed for business administration professionals.

LICENCIATURA IN INTERNATIONAL BUSINESS ADMINISTRATION

FINANCIAL ACCOUNTING	LFP1011	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting

		the necessary writing formats to efficiently make their point.
FUNDAMENTALS OF THE ADMINISTRATION OF MULTINATIONAL COMPANIES	**LNI1011**	At the end of this course, the student will appropriately use concepts and theoretical guides of basic administration of multinational companies, and, to analyze the behavior of strategies of certain multinational companies to face the great challenges posed by their business environments.
ECONOMIC GEOGRAPHY AND DEVELOPMENT EXPECTATIONS	**LNI1021**	At the end of this course, the student will be able to identify different globalization processes, as well as the issues related to economic, social and political aspects that developing and emergent economies face.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ADMINISTRATION OVERVIEW	**ADM1011**	At the end of the course, the student will describe the nature of administration, its characteristics and its dynamic process, in addition to understanding the essence of the administrative profession and the functional areas in business.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
INTERCULTURAL MANAGEMENT	**LNI1031**	At the end of the course, the student will understand the cultural heterogeneity of the modern world from a polycentric perspective through the acquisition of the basic concepts necessary to identify the main cultural differences between blocks of countries.
COST ACCOUNTING	**CON1011**	At the end of the course, the student will apply and master the way to determine the cost of production and to design a cost system in a company, understanding that costs represent one of the most important lines in the operation and management of a company.
SPANISH II	**ESP0021**	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	**LEX0121**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

MATHEMATICS I	**MAT1021**	At the end of the course, the student will properly handle the basic algebraic concepts. Propose and solve systems of equations that represent problems of percentages and calculation of interests, as well as master trigonometric mathematical tools to pose and solve geometric problems.
PRINCIPLES OF MICROECONOMICS	**ECO1011**	At the end of the course, the student will handle the basic elements of economic analysis emphasizing its application to consumer and business decision-making.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
MANAGERIAL ACCOUNTING	**CON2021**	At the end of the course, the student will apply the costs for planning and control purposes using the different tools that will be handled in this course allowing students to be prepared to make short-term decisions in companies.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS II	**MAT1031**	At the end of the course, the student will adequately handle the fundamental concepts of differential and integral calculus, solve problems of business cases, problems applied to the economic-administrative and social area, and represent the behavior of surpluses of consumers and producers and give solution to problems of a business nature.
MEXICO AND ITS RELATIONS WITH CANADA AND THE UNITED STATES	**LNI2021**	At the end of the course, the student will apply their knowledge about the weaknesses and strengths of the relations between Mexico, Canada and the United States, to identify the niches of opportunity for business.

PRINCIPLES OF MACROECONOMICS	ECO1211	At the end of the course, the student will identify, define and use the main variables of the short- and long-term macroeconomic analysis.
BUSINESS REGULATION IN MEXICO	LNI2011	At the end of the course, the student will interpret and apply the basic principles and guidelines for conducting business in Mexico within the framework established by law.
STATISTICAL ANALYSIS	MAT2011	At the end of the course, the student will apply the basic tools of descriptive statistics in various practical problems, calculating elementary probabilities, identifying and properly applying the most elementary models of probability to practical problems, in addition to managing the main distributions and confidence intervals.
INTERNATIONAL BUSINESS COMMUNICATION	LNI2041	At the end of this course the student will know the theoretical principles of international communication and will be able to apply different verbal and non-verbal communication styles, considering cultural differences.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
MARKETING FUNDAMENTALS	LMK1011	At the end of the course, the student will identify the principles and key elements of marketing (product, price, place and promotion) to develop a market strategy, to create value for customers.
PROFESSIONAL PRACTICE I	LNI2031	At the end of the course, the student will diagnose problems or opportunities in the different functional areas of the company, to propose alternative solutions, to choose the most appropriate alternative based on objective discrimination criteria and to implement the recommended solution. The student has significant professional experience by performing an internship in a company with international activities under the dual supervision/mentorship of a company executive and a licenciatura teacher.
INTERNATIONAL BUSINESS REGULATIONS	LNI2051	At the end of the course, the student will identify and apply the legal and non-legal elements that regulate business in the world and that impact on companies.

INFORMATION TECHNOLOGIES IN BUSINESS	**LAD2041**	At the end of this course, the student will value the strategic importance of information technologies in organizations and develops the skills to use them to support information systems operations, decision-making and the competitive advantage of organizations.
FINANCIAL MANAGEMENT	**CON2011**	At the end of the course, the student will analyze, identify and argue the role of the financial manager within companies, the different ways in which they operate, the basic tools of financial analysis and planning, the evaluation of financial performance through the analysis of financial reasons and cash flow, the structure of the asset and the financial structure. The student will analyze the determinants of the valuation of financial assets, the value of money over time, risk and performance analysis and the characteristics and forms of valuation of fixed income securities and common shares in the national and international markets.
STRATEGIC HUMAN RESOURCES MANAGEMENT	**LAD2021**	At the end of the course, the student will analyze and apply the most important concepts and functions of the strategic management of human resources within organizations and to develop skills to solve problems of human resources management.
GLOBAL BUSINESS ENVIRONMENT	**LNI3011**	At the end of the course, the student will identify the theoretical bases of globalization and the operations of international companies; identify and analyze the unchecked variables of the environment that have a significant impact on international business, decision-making and strategic action and will propose strategies and solutions that are compatible with the situation of the company within the global business context.
REGIONAL STUDIES I	**LNI3031**	At the end of the course, the student will assess the economic importance of the major East Asian countries such as China, Japan, South Korea, Taiwan and Singapore and identify the main differences and the specific challenges of doing business in those countries. The student will compare the countries of Europe at a cultural, economic, political and business opportunity level and will assess the degree of attraction of Europe's markets.

MARKET RESEARCH	LMK2061	At the end of this course, the student will understand the importance of market research as a fundamental tool for organizations; they will know the fundamental guidelines for research designs and measurement methods to understand problems related to the commercialization of goods and services; and finally, they will do a quantitative market research to provide accurate and relevant information about a product or service to reduce uncertainty in decision-making.
INTERNATIONAL LOGISTICS I	LNI3021	At the end of the course, the student will describe the importance of logistics activities in companies at an international level, to identify the general principles of international purchasing management and localization of the company's operations at an international level and to define principles of CRM systems administration (Customer Relationship Management).
CORPORATE SOCIAL RESPONSIBILITY	LAD4081	At the end of the course, the student will analyze the role of the company as a creator of shared value, not only economic but social; define the social initiatives and programs that have a greater impact for the company and society and has the tools and knowledge to prepare a report and social balance for the company.
INTERNATIONAL FINANCE MANAGEMENT	CON4011	At the end of the course, the student will use, analyze and outline the economic-financial tools necessary for the Financial Administration of companies in the international arena, understanding the functioning of international financial markets, particularly the foreign exchange market. Also, the student identifies the operation of the different derivative financial instruments and their use for hedging and speculation and defines other mechanisms in the international financial market with the purpose of making international investments or obtaining international financing. The student will minimize the risk and optimize the profitability of international companies.
INTERNATIONAL HUMAN RESOURCES MANAGEMENT	LNI3041	At the end of the course, the student will identify the types of strategic challenges of executive personnel management in multinational companies; in addition, it will design human resources policies for the following areas: 1) social architecture, 2) recruitment and selection, 3) international mobility and development, 4) performance evaluation and compensation.
INTERNATIONAL CORPORATE STRATEGY	LNI3061	At the end of the course, the student will understand how companies formulate, implement and evaluate

		strategies. It will plan the future direction of different organizations, to make objective strategic decisions and to justify them.
REGIONAL STUDIES II	**LNI3081**	At the end of the course, the student will compare and contrast the most important differences between the main markets of Latin America regarding infrastructure, economy, technological development, political systems, legal and social behavior. Similarly, the student can evaluate the investment potential of Latin American markets.
INTERNATIONAL LOGISTICS II	**LNI3071**	At the end of the course, the student will describe the importance of logistics activities in companies at an international level, to identify the general principles of international purchasing administration and to locate the company's operations at an international level; and finally, to define the principles of CRM (Customer Relationship Management) systems management.
SELECT TOPICS I	**TNI4011**	At the end of the course, the student will analyze and debate on current topics related to the various aspects that make up the international business environment.
INTERNATIONAL TRADE AGREEMENTS	**LNI3051**	At the end of the course, the student will apply, in specific cases, their knowledge about the niches of opportunity that open up for Mexican and Foreign companies in the regulatory framework of trade agreements.
PROGRAM AND PROJECT MANAGEMENT	**LAD4071**	At the end of the course, the student will apply the techniques and tools of Project Management through a complete and coherent methodology, valid for any type of projects, including organizational, human and technical aspects.
FOREIGN TRADE ADMINISTRATION	**LNI4011**	At the end of the course, the student will classify new opportunities in foreign markets (from a Mexican perspective), knows the legal aspects of export and import and mastered the principles of general planning of export operations.
REGIONAL STUDIES III	**LNI4031**	At the end of the course, the student will describe the main business events that have affected and will continue to affect the Middle East and North Africa (MENA) region. Similarly, the student will analyze daily events and understands the business environment of the MENA region.

INTERNATIONAL MARKETING	LMK3041	At the end of the course, the student will identify the concepts related to international marketing, as well as apply the concepts, theoretical guides and analyze the forces of the environment to develop strategies of products and services in international markets.
INTERNATIONAL NEGOTIATIONS	LNI4021	At the end of the course, the student will identify and apply concepts and theoretical guides to design, execute and evaluate strategies for international negotiation of contracts between companies; in addition, it enriches their social capacities as a negotiator in intercultural business contracts.
SELECT TOPICS II	TNI4021	At the end of the course, the student will analyze and debate on current topics related to the various aspects that make up the international business environment.
SELECT TOPICS III	TNI4031	At the end of the course, the student will analyze and debate on current topics related to the various aspects that make up the international business environment.
PROFESSIONAL PRACTICE II	LNI4041	At the end of the course, the student will diagnose problems or opportunities in the different functional areas of the company, to propose alternative solutions, to choose the most appropriate alternative based on objective discrimination criteria and to implement the recommended solution. The student has significant professional experience by performing an internship in a company with international activities under the dual supervision/mentorship of a company executive and a licenciatura teacher.

LICENCIATURA IN HOTEL AND RESTAURANT MANAGEMENT

GASTRONOMIC CULTURE OF MEXICO AND THE WORLD	LCU1021	At the end of the course, the student will identify the periods and the evolution that gastronomy has had historically, as well as the contributions that each of the countries have given.
ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.

INTRODUCTION TO HOTELS AND RESTAURANTS	**LHR1011**	At the end of the course, the student will identify the entities that make up the hospitality industry, as well as the most relevant areas of the operation and administration of accommodation and food services and will know the development and work opportunity that the industry offers.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
HYGIENIC FOOD MANAGEMENT	**LHR1031**	At the end of the course, the student will properly apply the principles of hygienic food management to prevent contamination and transmission of diseases, including the handling of food, from the purchase and storage, the preparation and service of the same, as well as the selection of different types of food and the appropriate conditions for its reception and storage.
ADMINISTRATION OVERVIEW	**ADM1011**	At the end of the course, the student will describe the nature of the administration, its characteristics and its dynamic process, in addition to understanding the essence of the administrative profession and the functional areas in business.
PROTOCOL AND ETIQUETTE	**LHR1021**	At the end of the course, the student will identify the dynamics of the protocol rules from a historical, legal and social context.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
RESTAURANT MANAGEMENT I	**LHR1041**	At the end of the course, the student will identify the forms of distribution and service; develop menus according to the type of customers and styles of service considering nutrition; know the production methods and their controls; pay for recipes and suggest prices and select the equipment and needs of kitchen and dining room. Likewise, they will identify the characteristics, evolution and trends of the food service industry, as well as the fundamentals in the planning and costing of the menu
HOSTING MANAGEMENT	**LHR1061**	At the end of the course, the student will identify the general concepts of the management of a hotel, fundamentally the front of the house, starting from each of the areas and activities that are incorporated into the guest cycle, determine the organization and administrative processes within a hotel, relate and

		categorize the administrative processes, basic operational and accounting of each of the stages of the guest cycle: reservation, check-in, check-out, stay, analyze and break down night audit reports.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
INTRODUCTION TO TOURISM	LHR1051	At the end of the course, the student will outline the components of international tourism, its relationship and analyze tourism as a social phenomenon, its political, economic and sociocultural implications; as well as argue about the travel behavior of tourists, their marketing and the role of various international organizations, the social, economic and environmental impacts it generates, and identify trends within international tourism.
FOOD AND BEVERAGE LAB	ACU1011	At the end of the course, the student will identify and apply the necessary techniques for the elaboration of dishes, hygienic handling of food, standardization of recipes and service at the table, so the student knows the basic needs inherent in the management of the kitchen and the service in a restaurant.
FOREIGN LANGUAGE II	EX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS I	MAT1021	At the end of the course, the student will properly handle the basic algebraic concepts. Propose and solve systems of equations that represent problems of percentages and calculation of interests, as well as master trigonometric mathematical tools to pose and solve geometric problems.
FINANCIAL ACCOUNTING	LFP1011	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
NUTRITION FUNDAMENTALS	NUT1011	At the end of the course, the student will analyze and compare the nutrients, functions and requirements, as well as identify the foods that provide the nutrients to plan a normal diet and to solve some health problems,

		complementing the regimens with appropriate menu plans.
FOOD AND BEVERAGE LAB II	**ACU2011**	At the end of the course, the student will identify and apply the different cooking techniques and preparation methods in vegetables, meats, poultry, fish, dairy products to obtain different flavors, colors and presentations in food, in addition to knowing the expenses and processes that are needed and apply the services most used in the restaurant industry.
FOREIGN LANGUAGE III	**LEX0131**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
TOURISM MARKETING	**LHR2011**	At the end of the course, the student will master the general concepts of marketing and apply them in the various sectors of the travel and tourism industry, as well as diagnose marketing problems related to tourism and make marketing plans applicable to tourism.
CULTURAL HERITAGE	**LAQ3041**	At the end of the course, the student will expose a set of archaeological values through the critical study and analysis of ethical codes both past and contemporary in this field, to assess the positions on the treatment, possession and disposal of human remains, archaeological and historical sites and other antiquities. It is also able to develop an effective position to support and defend the preservation of cultural heritage and will evaluate contemporary issues on ethical and legal aspects in the context of professional archaeological practice.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
RESTAURANT MANAGEMENT II	**LHR2031**	At the end of the course, the student will apply the concepts of food purchases, know their market, identify the different types of food service, organize the restaurant staff and their activities, select suppliers appropriately and make food purchase specifications, in addition to evaluating the quality in the service of the food and products of the restaurant.

STATISTICAL ANALYSIS	MAT2011	At the end of the course, the student will apply the basic tools of descriptive statistics in various practical problems, calculating elementary probabilities, identifying and properly applying the most elementary models of probability to practical problems, in addition to managing the main distributions and confidence intervals.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
HUMAN BEHAVIOR IN ORGANIZATIONS	LAD1021	At the end of the course, the student will develop and promote the understanding of the dynamics of people in organizations, to conduct themselves in an assertive way in their interactions and thus contribute to organizational objectives.
MARKETING FOR HOTELS AND RESTAURANTS	LHR2021	At the end of the course, the student will define the basic terminology of marketing and discuss the concepts and their direct application to hotels and restaurants to develop a marketing plan.
PROFESSIONAL PRACTICE I	LHR2041	At the end of the course, the student will analyze the different procedures that are applied in each of the areas of the front and back of a hotel; face their first contact with guests and with the management of situations that help decision-making and problem solving, as well as the practical application of the knowledge acquired in the corresponding subjects in the previous semesters of the curriculum.
PRINCIPLES OF MICROECONOMICS	ECO1011	At the end of the course, the student will handle the basic elements of economic analysis emphasizing its application to consumer and business decision-making.
BEVERAGE SERVICE MANAGEMENT	LHR3011	At the end of the course, the student will make decisions in the field of administration, preparation and service in drinks offered in a hotel or restaurant.
CORPORATE COMMUNICATION FOR HOTELS AND RESTAURANTS	LHR3021	At the end of the course, the student will understand the basic concepts of communication theory to apply them to the components of the promotional mix of hotels and restaurants, in a strategic way.
COST ACCOUNTING FOR HOTELS AND RESTAURANTS	CON3011	At the end of the course, the student will apply and master the way to determine the correct production

		cost of food and beverages in the restaurant and hospital sector.
LABOR LAW	**LDE1031**	At the end of the course, the student will apply in specific cases the rights and obligations that workers and employers have reciprocally; analyze the negotiation of a strike from the worker or employer perspective as well as identify and resolve legal problems related to the interpretation and application of the rules that regulate worker-employer relations with support in doctrine and jurisprudence.
ENVIRONMENT, TYPOLOGY AND SETTING OF HOTEL FACILITIES	**LHR3031**	At the end of the course, the student will use the knowledge acquired for the proper use and/or design of hotel facilities for the provision of accommodation services in different environmental and market conditions.
ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
FINANCIAL MANAGEMENT FOR HOTELS AND RESTAURANTS	**CON3021**	At the end of the course, the student will analyze, identify and argue the role of the financial manager within the restaurant and hospital sector. Likewise, it will understand the different ways in which they operate, the basic tools of financial analysis and planning, the evaluation of financial performance through the analysis of financial reasons and cash flow, considering the structure of the asset and the financial structure.
ANALYSIS OF TOURISM MARKETS	**LHR3051**	At the end of the course, the student will apply the methodology to obtain, analyze and interpret the information necessary for decision-making required by hotel and restaurant businesses in the business environments where they compete.
TOURISM ECONOMY	**LHR3071**	At the end of the course, the student will manage the basic knowledge about the factors that determine the competitive environment of the companies and organizations that make up the tourism markets, as well as knowing the procedures and techniques most used to carry out business location studies related to the provision of tourism services.

WINE CULTURE	ACU3011	At the end of the course, the student will define basic concepts related to alcoholic beverages, as well as explain the effect of alcohol consumption on health. They will define the concepts and basic characteristics of the different wines and spirits and explain in a general way the methods of elaboration, conservation, and service of the different alcoholic beverages. Likewise, they will identify the characteristics, types, standards and representative regions of wines from different parts of the world and know the bases of the objective appreciation of the sensory quality of wines and their pairing.
HOTEL AND RESTAURANT MAINTENANCE	LHR3061	At the end of the course, the student will know the characteristics, operation, service, conservation and maintenance of the facilities and equipment used in the hotel industry
NEW BUSINESS APPROACHES FOR HOTELS AND RESTAURANTS	LHR3041	At the end of the course, the student will identify and analyze possible forms of business common in the hospitality industry, outline the conceptual and operational framework related to each business approach, analyze and argue about the related problem to offer solutions, as well as determine what is the best business alternative in a given situation.
SELECT TOPICS I	THR4011	At the end of the course, the student will identify the conceptual and operational framework related to the resorts; relate and integrate the concepts of hotel management and tourism planning and recognize the characteristics and problems of resort hotels, describing their relevant characteristics and associating the management of a traditional hotel with the particular one for the operation of the different types of spas, golf, tennis, etc. resorts.
EVENT MANAGEMENT	LHR4041	At the end of the course, the student will argue the importance of the group market and its segmentation, as well as the event market, in general, both for the hotel operation and for the different tourist destinations. Likewise, they will manage the operational aspects of all types of groups and/or mass events in hotels, convention centers, or other possible facilities and/or places.
QUALITY AND REGULATIONS OF HOTELS AND RESTAURANTS	LHR4021	At the end of the course, the student will handle the basic terminology on regulations, apply the concepts to hotels and restaurants, assess the importance of

		quality in hotels and restaurants and understand the different rules that affect these companies.
E-COMMERCE AND TOURISM	**LHR4031**	At the end of the course, the student will analyze the key elements and technologies of E-Business and develop the skills to apply internet technologies to the processes of the company.
STRATEGIES IN HOTELS AND RESTAURANTS	**LHR4011**	At the end of the course, the student will handle the basic terminology, discuss the concepts, assess the importance of quality to apply it to the administration of hotels and restaurants, understanding the different rules that affect these companies.
HOTELS AND RESTAURANTS MANAGEMENT SEMINAR	**LHR4051**	At the end of the course, the student will know, value and apply the learning obtained in the program on hotel organizations to successfully insert themselves in the different national and international business realities of the hotel market.
SELECT TOPICS II	**THR4021**	At the end of the course, the student will define the factors that have influenced the changes that have been made in the restaurants and in their service and in the design of contemporary restaurants, in addition to identifying the changes in the needs of the consumers. They will identify the fashion and trend concepts of food and beverage, operations and service in restaurants, and examine the forces that influence consumer behavior in food service organizations.
SELECT TOPICS III	**THR4031**	At the end of the course, the student will understand the strategic importance of making planned strategic changes, have a solid frame of reference to apply the fundamentals of change management and become familiar with different tools and approaches – including the art of facilitation – in the different actions and tasks in hotels and/or restaurants.
PROFESSIONAL PRACTICE II	**LHR4061**	At the end of the course, the student will carry out a report that includes a reflection of all the advantages and disadvantages they had when carrying out their professional practices. Students will exchange experiences and points of view on the different mechanisms that hotels use to manage staff and carry out their organizational objectives. Likewise, the student will report their evaluations in such a way that it is applicable in business.

LICENCIATURA IN INTERNATIONAL BUSINESS ADMINISTRATION

FINANCIAL ACCOUNTING	**LFP1011**	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
ENGLISH I	**ESP0011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
FUNDAMENTALS OF THE ADMINISTRATION OF MULTINATIONAL COMPANIES	**LNI1011**	At the end of this course, the student will appropriately use concepts and theoretical guides of basic administration of multinational companies, and, analyze the behavior of strategies of certain multinational companies to face the great challenges posed by their business environments.
ECONOMIC GEOGRAPHY AND DEVELOPMENT EXPECTATIONS	**LNI1021**	At the end of this course, the student will be able to identify different globalization processes, as well as the issues related to economic, social and political aspects that developing and emergent economies face
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ADMINISTRATION OVERVIEW	**ADM1011**	At the end of the course, the student will describe the nature of the administration, its characteristics and its dynamic process, in addition to understanding the essence of the administrative profession and the functional areas in business.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.

INTERCULTURAL ADMINISTRATION	**LNI1031**	At the end of the course, the student will understand the cultural heterogeneity of the modern world from a polycentric perspective through the acquisition of the basic concepts necessary to identify the main cultural differences between blocks of countries.
COST ACCOUNTING	**CON1011**	At the end of the course, the student will apply and master the way to determine the cost of production and to design a cost system in a company, understanding that costs represent one of the most important lines in the operation and management of a company.
SPANISH II	**ESP0021**	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	**LEX0121**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS I	**MAT1021**	At the end of the course, the student will properly handle the basic algebraic concepts. Propose and solve systems of equations that represent problems of percentages and calculation of interests, as well as master trigonometric mathematical tools to pose and solve geometric problems.
PRINCIPLES OF MICROECONOMICS	**ECO1011**	At the end of the course, the student will handle the basic elements of economic analysis emphasizing its application to consumer and business decision-making.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	**INF0011**	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.

MANAGERIAL ACCOUNTING	CON2021	At the end of the course, the student will apply the costs for planning and control purposes using the different tools that will be handled in this course allowing students to be prepared to make short-term decisions in companies.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS II	MAT1031	At the end of the course, the student will adequately handle the fundamental concepts of differential and integral calculus, solve problems of business cases, problems applied to the economic-administrative and social area, and represent the behavior of surpluses of consumers and producers and give solution to problems of a business nature.
MEXICO AND ITS RELATIONS WITH CANADA AND THE UNITED STATES	LNI2021	At the end of the course, the student will apply their knowledge about the weaknesses and strengths of the relations between Mexico, Canada and the United States, to identify the niches of opportunity for business.
PRINCIPLES OF MACROECONOMICS	ECO1211	At the end of the course, the student will identify, define and use the main variables of the short- and long-term macroeconomic analysis.
BUSINESS REGULATION IN MEXICO	LNI2011	At the end of the course, the student will interpret and apply the basic principles and guidelines for conducting business in Mexico within the framework established by law.
STATISTICAL ANALYSIS	MAT2011	At the end of the course, the student will apply the basic tools of descriptive statistics in various practical problems, calculating elementary probabilities, identifying and properly applying the most elementary models of probability to practical problems, in addition to managing the main distributions and confidence intervals.
INTERNATIONAL BUSINESS COMMUNICATION	LNI2041	At the end of this course the student will know the theoretical principles of international communication and will be able to apply different verbal and non-verbal communication styles, considering cultural differences.

ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
MARKETING FUNDAMENTALS	LMK1011	At the end of the course, the student will identify the principles and key elements of marketing (product, price, place and promotion) to develop a market strategy, to create value for customers.
PROFESSIONAL PRACTICE I	LNI2031	At the end of the course, the student will diagnose problems or opportunities in the different functional areas of the company, to propose alternative solutions, to choose the most appropriate alternative based on objective discrimination criteria and to implement the recommended solution. The student has significant professional experience by performing an internship in a company with international activities under the dual supervision/mentorship of a company executive and a bachelor's degree teacher.
INTERNATIONAL BUSINESS REGULATIONS	LNI2051	At the end of the course, the student will identify and apply the legal and non-legal elements that regulate business in the world and that impact on companies.
INFORMATION TECHNOLOGIES IN BUSINESS	LAD2041	At the end of this course, the student will value the strategic importance of information technologies in organizations and develops the skills to use them to support information systems operations, decision-making and the competitive advantage of organizations.
FINANCIAL MANAGEMENT	CON2011	At the end of the course, the student will analyze, identify and argue the role of the financial manager within companies, the different ways in which they operate, the basic tools of Financial analysis and Planning, the evaluation of financial performance through the analysis of financial reasons and cash flow, the structure of the asset and the financial structure. It is also capable of analyzing the determinants of the valuation of financial assets, the value of money over time, risk and performance analysis and the characteristics and forms of valuation of fixed income

		securities and common shares in the national and international markets.
STRATEGIC HUMAN RESOURCES MANAGEMENT	**LAD2021**	At the end of the course, the student will analyze and apply the most important concepts and functions of the strategic direction of human resources within organizations and to develop skills to solve problems of human resources management.
GLOBAL BUSINESS ENVIRONMENT	**LNI3011**	At the end of the course, the student will identify the theoretical bases of globalization and the operations of international companies; to identify and analyze the unchecked variables of the environment that have a significant impact on international business, decision-making and strategic action and will propose strategies and solutions that are compatible with the situation of the company within the global business context.
REGIONAL STUDIES I	**LNI3031**	At the end of the course, the student will assess the economic importance of the major East Asian countries such as China, Japan, South Korea, Taiwan and Singapore and identify the main differences and the specific challenges of doing business in those countries. The student will compare the countries of Europe at a cultural, economic, political and business opportunity level and will assess the degree of attraction of Europe's markets.
MARKET RESEARCH	**LMK2061**	At the end of this course, the student will understand the importance of market research as a fundamental tool for organizations; they will know the fundamental guidelines for research designs and measurement methods to understand problems related to the commercialization of goods and services; and finally, they will do a quantitative market research to provide accurate and relevant information about a product or service to reduce uncertainty in decision-making.

INTERNATIONAL LOGISTICS I	LNI3021	At the end of the course, the student will describe the importance of logistics activities in companies at an international level, to identify the general principles of international purchasing management and localization of the company's operations at an international level and to define principles of crm systems administration (Customer Relationship Management).
CORPORATE SOCIAL RESPONSIBILITY	LAD4081	At the end of the course, the student will analyze the role of the company as a creator of shared value, not only economic but social; to define the social initiatives and programs that have a greater impact for the company and society and has the tools and knowledge to prepare a report and social balance for the company.
INTERNATIONAL FINANCE MANAGEMENT	CON4011	At the end of the course, the student will use, analyze and outline the economic-financial tools necessary for the Financial Administration of companies in the international arena, understanding the functioning of international financial markets, particularly the foreign exchange market. Also, the student identifies the operation of the different derivative financial instruments and their use for hedging and speculation and defines other mechanisms in the international financial market with the purpose of making international investments or obtaining international financing. The student will minimize the risk and optimize the profitability of international companies.
INTERNATIONAL HUMAN RESOURCES MANAGEMENT	LNI3041	At the end of the course, the student will identify the types of strategic challenges of executive personnel management in multinational companies; in addition, it will design human resources policies for the following areas: 1) social architecture, 2) recruitment and selection, 3) international mobility and development, 4) performance evaluation and compensation.
INTERNATIONAL CORPORATE STRATEGY	LNI3061	At the end of the course, the student will understand how companies plan, implement and evaluate strategies. They will plan the future direction of different organizations, and make objective strategic decisions and to justify them.
REGIONAL STUDIES II	LNI3081	At the end of the course, the student will compare the most important differences between the main markets of Latin America regarding infrastructure, economy, technological development, political systems, legal and social behavior. Similarly, the student can evaluate the investment potential of Latin American markets.

INTERNATIONAL LOGISTICS II	**LNI3071**	At the end of the course, the student will describe the importance of logistics activities in companies at an international level, to identify the general principles of international purchasing administration and to locate the company's operations at an international level; and finally, to define the principles of CRM (Customer Relationship Management) systems management.
SELECT TOPICS I	**TNI4011**	At the end of the course, the student will analyze and debate on current topics related to the various aspects that make up the international business environment.
INTERNATIONAL TRADE AGREEMENTS	**LNI3051**	At the end of the course, the student will apply, in specific cases, their knowledge about the niches of opportunity that open for Mexican and foreign companies in the regulatory framework of trade agreements.
PROGRAM AND PROJECT MANAGEMENT	**LAD4071**	At the end of the course, the student will apply the techniques and tools of Project Management through a complete and coherent methodology, valid for any type of projects, including organizational, human and technical aspects.
FOREIGN TRADE ADMINISTRATION	**LNI4011**	At the end of the course, the student will classify new opportunities in foreign markets (from a Mexican perspective), knows the legal aspects of export and import and mastered the principles of general planning of export operations.
REGIONAL STUDIES III	**LNI4031**	At the end of the course, the student will describe the main business events that have affected and will continue to affect the Middle East and North Africa (MENA) region. Similarly, the student will analyze daily events and understands the business environment of the MENA region.
INTERNATIONAL MARKETING	**LMK3041**	At the end of the course, the student will identify the concepts related to international marketing, as well as to apply the concepts, theoretical guides and analyze the forces of the environment to develop strategies of products and services in international markets.
INTERNATIONAL NEGOTIATIONS	**LNI4021**	At the end of the course, the student will identify and apply concepts and theoretical guides to design, execute and evaluate strategies for international negotiation of contracts between companies; in addition, it enriches their social capacities as a negotiator in intercultural business contracts.

SELECT TOPICS II	TNI4021	At the end of the course, the student will analyze and debate on current topics related to the various aspects that make up the international business environment.
SELECT TOPICS III	TNI4031	At the end of the course, the student will analyze and debate on current topics related to the various aspects that make up the international business environment.
PROFESSIONAL PRACTICE II	LNI4041	At the end of the course, the student will diagnose problems or opportunities in the different functional areas of the company, to propose alternative solutions, to choose the most appropriate alternative based on objective discrimination criteria and to implement the recommended solution. The student has significant professional experience by performing an internship in a company with international activities under the dual supervision/mentorship of a company executive and a bachelor's degree teacher.

LICENCIATURA IN INFORMATION TECHNOLOGY MANAGEMENT

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.

FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
CORPORATE LAW	LDE3031	At the end of the course, thealumis not able to establish in writing a strategic plan for the prevention and management of risks in a company and, where appropriate, propose the means for its legal defense.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of the artifact and its conservation.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
MATHEMATICS I	MAT1021	At the end of the course, the student will adequately handle the fundamental concepts of differential and integral calculus, solve problems of business cases, problems applied to the economic-administrative and social area, and represent the behavior of surpluses of consumers and producers and give solution to problems of a business nature.
ADMINISTRATION OVERVIEW	ADM1011	At the end of the course, the student is able to describe the natureofthe administration, itsrhythmic characteristics and its dynamic process, as well as understanding the essence of the administrative profession and the functional areas in business.
PRINCIPLES OF MICROECONOMICS	EC01011	At theend of the course, the student will handle the basic elements of economic analysis emphasizing its application to consumer and business decision-making.
E-BUSINESS	LAD3011	At the end of the course, the student will distinguish the elementos and technologies claves of electronic business and apply internet technologies to the processes of the company.

FINANCIAL ACCOUNTING	**LFP1011**	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
MATHEMATICS	**MAT1031**	At the end of the course, the student willhandle adequately the fundamental concepts of differential and integral calculus, solve problems of business cases, problems applied to the economic-administrative and social area, and represent the surplus behavior of consumers and producers and solve problems of a business nature.
COST ACCOUNTING	**CON1011**	At the end of the course, the student will apply and master the way to determine the cost of production and to design a cost system in a company, understanding that costs represent one of the most important lines in the operation and management of a company.
HUMAN BEHAVIOR IN ORGANIZATIONS	**LAD1021**	At the end of the course, the student will develop and promote the understanding of thedynamics of the personas in the organizations, to conduct themselves in an assertive way in their interactions and in this way contribute to the organizational objectives.
INTRODUCTION TO PROGRAMMING	**LIS1011**	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.
STATISTICAL ANALYSIS	**MAT2011**	At the end of the course, the student will apply the basic tools of descriptive statistics in various practical problems, calculating elementary probabilities, identifying and properly applying the most elementary models of probability to practical problems, in addition to managing the main distributions and confidence intervals.

FINANCIAL MANAGEMENT	**CON2011**	At the end of the course, the student will analyze, identify and argue the role of the financial manager within companies, the different ways in which they operate, the basic tools of Financial analysis and Planning, the evaluation of financial performance through the analysis of financial reasons and cash flow, the structure of the asset and the financial structure. It is also capable of analyzing the determinants of the valuation of financial assets, the value of money over time, risk and performance analysis and the characteristics and forms of valuation of fixed income securities and common shares in the national and international markets.
PRINCIPLES OF MACROECONOMICS	**ECO1021**	At the end of the course, the student will identify, define and use the main variables of the short- and long-term macroeconomic analysis.
ENTREPRENEURIAL CULTURE	**LAD2051**	At the end of the course, the student will formulate, plan and implement a new business initiative, using methods and tools that allow them to approach it as an entrepreneur.
CORPORATE SOCIAL RESPONSIBILITY	**LAD4081**	At the end of the course, the student will analyze the role of the company as a creator of shared value, not only economic but social; to define the social initiatives and programs that have a greater impact for the company and society and has the tools and knowledge to prepare a report and social balance for the company.
HUMAN COMPUTER INTERACTION	**LIS2081**	At the end of the course, the student will identify and apply the fundamental concepts of Human-Computer Interaction (IHC), a multidisciplinary field that studies the human and technological aspects that impact the design of interactive systems.
FORECASTING METHODS	**MAT2081**	At the end of the course, the student will measure forecasting methods through Residual analysis, to identify and correctly apply stationary and seasonal and non-seasonal trend methods and regression methods for seasonal series, and to construct forecast prediction intervals.
EVALUATION OF INVESTMENT PROJECTS	**CON3031**	At the end of the course, the student will identify, analyze and outline the tools and methods to evaluate investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk, as well as to define and develop evaluation methods, considering market factors,

		technical , administrative, legal, financial, economic and social giving greater emphasis to the financial and economic study.
COMPUTER NETWORKS	**LIS2031**	At the end of the course, the student will master the design and use of wired and wireless networks, network operating systems, protocols and security in them.
DATABASES	**LIS3031**	At the end of the course, the student will model and develop database management systems for information administration.
MARKET INTELLIGENCE	**LMK3021**	At the end of the course, the student will master the approaches of multivariate statistics and market intelligence to generate relevant information from internal processes and the characteristics of consumers and main competitors, turning figures and data into timely and useful information according to the strategic requirements of their organization. It is also able to identify and apply the most relevant multivariate statistical techniques in the analysis of information generated from consumer surveys, interpreting the results in an appropriate way and with the necessary tools to analyze large volumes of numerical information, obtained from multidimensional or transactional databases.
LEADERSHIP AND TEAM MANAGEMENT	**LAD3041**	At the end of the course, the student will identify in depth the most appropriate leadership styles according to the type of organization and review the skills necessary to perform properly in positions of personnel management, to create and manage work teams that allow to solve problems related to human resources.
OPERATIONS MANAGEMENT	**LAD3051**	At the end of the course, the student will apply the theoretical and practical knowledge related to the different areas of Operations Management and will apply the knowledge acquired in the solution of problems within a managerial context.
KNOWLEDGE MANAGEMENT	**LAD3061**	At the end of the course, the student will assess the strategic importance of knowledge in organizations and develop the skills to promote its creation, capture, coding, storage and use.
INTELLECTUAL PROPERTY LAW	**LDE2071**	At the end of the course, the student will analyze and apply the legal framework of intellectual property law through the approach and solution of practical cases.
SOFTWARE ENGINEERING	**LIS3011**	At the end of the course, the student will identify and master the software engineering techniques available

		for the analysis, design, implementation, testing and installation of software.
CHANGE MANAGEMENT	**LAD4021**	At the end of the course, the student will master the change and organizational development and know the necessary tools to effectively manage the social changes that occur in the organizational systems and subsystems.
SUPPLY CHAIN MANAGEMENT	**LAD4031**	At the end of the course, the student will design a supply chain strategy aligned with the corporate strategy of the organization.
BUSINESS STRATEGIES	**LAD4041**	At the end of the course, the student will think strategically about the company, its current position, long-term vision, its resources and capabilities, competitive capabilities, strategic approach and opportunities to achieve sustainable competitive advantages.
INTRODUCTION TO INFORMATION TECHNOLOGY MANAGEMENT	**LTI1011**	At the end of the course, the student will assess the strategic importance of information technologies in organizations, and develop the skills to use them to support operations, decision-making and the competitive advantage of organizations.
DECISION MODELS	**LAD3021**	At the end of the course, the student will identify the type of linear programming model to be used for problem solving in industry and in the company.
BUSINESS INTELLIGENCE	**LTI3021**	At the end of the course, the student will distinguish the key elements and technologies of the Business Intelligence systems and to understandthe power of the data analysis techniques to obtain information that helps in the management of problems and in the identification of business opportunities
INNOVATION AND BUSINESS MODELS	**LTI4011**	At the end of the course, and from the participation in discussions, workshops and class exercises, the student will generate ideas to create value through business models based on the use of information technologies.
PROFESSIONAL PRACTICE I	**LT14021**	At the end of the course, and from the practice in a company, the individual and collective reflection with other students abajando in similar experiences, the student will solve problems associated with his professional practice in a reflective and systematic way.
SELECT TOPICS I	**TTI4011**	At the end of the course, the student will identify and analyze in depth the selected topics on informationtechnologies and their use in business, to stay updated on the opportunities and impacts of the

		topics analyzed for the professionals of information technology administration.
SIMULATION IN THE COMPANY	**LAD4061**	At the end ofthe course and based on their experiences with simulation games and business simulators, the student will develop the ability to create models that facilitate the analysis of strategic problems based on the modeling and simulation.
PROGRAM AND PROJECT MANAGEMENT	**LAD4071**	At the end of the course, the student will apply the techniques and tools of Project Management through a complete and coherent methodology, valid for any type of projects, including organizational, human and technical aspects.
PROFESSIONAL PRACTICE II	**LTI4041**	At the end of the course, and from the practice in a company, the individual and collective reflection with other students abajando in similar experiences, the student will solve problems associated with his professional practice in a reflective and systematic way.
STRATEGY AND GOVERNANCE OF INFORMATION TECHNOLOGIES	**LTN4031**	At the end of the course, and from the discussion of cases and the presentations of information technology professionals, the student is able to design information technology strategies aimed at achieving business objectives, as well as the governance structures that support the monitoring and achieving the strategy.
SELECT TOPICS II	**TTI4021**	At the end of the course, the student will identify and analyze in depth the selected topics on informationtechnologies and their use in business, to stay updated on the opportunities and impacts of the topics analyzed for the professionals of information technology administration.
SELECT TOPICS III	**TTI4031**	At the end of the course, the student will identify and analyze in depth the selected topics on information technologies and their use in business, to stay updated on the opportunities and impacts of the topics analyzed for the professionals of information technology administration.

LICENCIATURA IN CULINARY ARTS

ENGLISH I	**ESP0011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.

INTRODUCTION TO HOTELS AND RESTAURANTS	LHR1011	At the end of the course, the student will identify the entities that make up the hospitality industry, as well as the most relevant areas of the operation and administration of accommodation and food services and will know the development and work opportunity that the industry offers.
INTRODUCTION TO THE CULINARY ARTS	LCU1011	At the end of the course, the student will master the basic culinary techniques for the elaboration of recipes, use of culinary language, mastery of cooking tools, identification of equipment and basic ingredients, elaboration of recipes, requisitions and conversions within culinary mathematics for a correct application of criteria within a kitchen.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
HYGIENIC FOOD MANAGEMENT	LHR1031	At the end of the course, the student will properly apply the principles of hygienic food management to prevent contamination and transmission of diseases, including the handling of food, from the purchase and storage, the preparation and service of the same, as well as the selection of different types of food and the appropriate conditions for its reception and storage.
PROTOCOL AND ETIQUETTE	LHR1021	At the end of the course, the student will identify the dynamics of the protocol rules from a historical, legal and social context.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
GASTRONOMIC CULTURE OF MEXICO AND THE WORLD	LCU1021	At the end of the course, the student will identify the periods and the evolution that gastronomy has had historically, as well as the contributions that each of the countries have given.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.

MATHEMATICS I	MAT1021	At the end of the course, the student will properly handle the basic algebraic concepts. Propose and solve systems of equations that represent problems of percentages and calculation of interests, as well as master trigonometric mathematical tools to pose and solve geometric problems.
BASIC BAKING	LCU1041	At the end of the course, the student will select from the raw material and equipment to the freshly baked bread, mastering the basic techniques for its production with high quality standards.
ADMINISTRATION OVERVIEW	ADM1011	At the end of the course, the student will describe the nature of the administration, its characteristics and its dynamic process, in addition to understanding the essence of the administrative profession and the functional areas in business.
PROFESSIONAL PRACTICE I	LCU1051	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of the Culinary Arts and solve situations of adaptation to a new work environment.
CULINARY TECHNIQUES	LCU1031	At the end of the course, the student will describe the different cooking methods that exist, to be able to apply them to the products according to the characteristics of structure, temperature and cooking times.
FINANCIAL ACCOUNTING	LFP1011	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
NUTRITION FUNDAMENTALS	NUT1011	At the end of the course, the student will analyze and compare the nutrients, functions and requirements, as well as identify the foods that provide the nutrients to plan a normal diet and to solve some health problems, complementing the regimens with appropriate menu plans.
IDENTIFICATION AND USE OF MEAT	LCU2011	At the end of the course, the student will identify different animals and their breeds, as well as cuts, processing, handling, good manufacturing practices, organoleptic and cooked quality of the different animals.

FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
BASIC PASTRIES	LCU2021	At the end of the course, the student will describe and analyze the components and processes used in the pastry, as well as the use of diverse criteria in the elaboration of products based on type of ingredients, country of origin, colors, textures, among others.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
RESTAURANT MANAGEMENT II	LHR2031	At the end of the course, the student will apply the concepts of food purchases, know their market, identify the different types of food service, organize the restaurant staff and their activities, select suppliers appropriately and make food purchase specifications, in addition to evaluating the quality in the service of the food and products of the restaurant.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
SENSORY FOOD EVALUATION	LCU2061	At the end of the course, the student will understand the physiological foundations of taste in food, the mechanisms in which these flavors are generated and the most used tests to define and quantify the sensory characteristics present in a food.
IDENTIFICATION AND USE OF POULTRY, FISH AND SHELLFISH	LCU2031	At the end of the course, the student will process through a wide range of cooking methods, birds, fish and shellfish as well as describe their different cuts, parts and joints, identify the wide variety of products available and their specifications, and apply various cutting techniques.
INTRODUCTION TO ENOLOGY	LCU2041	At the end of the course, the student will identify the wine process from the field to its sale, storage, service temperatures, tasting and basic options for pairing with food in general.

FOREIGN LANGUAGE IV	LEX2021	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PROFESSIONAL PRACTICE II	LCU2051	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of the Culinary Arts and solve situations of adaptation to a new work environment.
COMPOSITION OF FOOD	LCU3011	At the end of the course, the student will identify and properly apply the principles of food chemistry, to understand what happens in the different processes to which they are subjected and the changes that the molecules undergo to give their different textures, smells and flavors that give the pleasant sensory characteristics to the diner.
COST ACCOUNTING FOR HOTELS AND RESTAURANTS	CON3011	At the end of the course, the student will apply and master the way to determine the correct cost of food and beverage production in the restaurant and hospital sector.
LABOR LAW	LDE1031	At the end of the course, the student will apply in specific cases the rights and obligations that workers and employers have reciprocally; analyze the negotiation of a strike from the worker or employer perspective as well as identify and resolve legal problems related to the interpretation and application of the rules that regulate worker-employer relations with support in doctrine and jurisprudence.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
FOREIGN LANGUAGE V	LEX3011	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
ROOM SERVICE	LCU3021	At the end of the course, the student will know and master the techniques of the room service for all types of restaurants and bars.

BEVERAGE SERVICE MANAGEMENT	LHR3011	At the end of the course, the student will make decisions in the field of administration, preparation and service in drinks offered in a hotel or restaurant.
FINANCIAL MANAGEMENT FOR HOTELS AND RESTAURANTS	CON3021	At the end of the course, the student will analyze, identify and argue the role of the financial manager within the restaurant and hospital sector. Likewise, it will understand the different ways in which they operate, the basic tools of Financial analysis and Planning, the evaluation of financial performance through the analysis of financial reasons and cash flow, considering the structure of the asset and the financial structure.
GARDE MANGER	LCU3041	At the end of the course, the student will design a banquet up to 100 people with their cost and appropriate references of the menu, in addition to properly elaborating the various types of dishes that are usually offered in these events.
SUSTAINABLE GASTRONOMY	LCU3031	At the end of the course, the student will identify the concepts of sustainable gastronomy and how to adapt it in a culinary offer.
MARKETING FOR HOTELS AND RESTAURANTS	LHR2021	At the end of the course, the student will define the basic terminology of marketing and discuss the concepts and their direct application to hotels and restaurants to develop a marketing plan.
PROFESSIONAL PRACTICE III	LCU3051	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of the Culinary Arts and solve situations of adaptation to a new work environment.
SELECT TOPICS I	TCU4011	At the end of the course, the student will understand and master the techniques and the use of tools to sculpt fruits, vegetables and ice, in relation to an aesthetic preparation according to the type of service required.
FRENCH CUISINE	LCU4011	At the end of the course the student will apply the various products, equipment, cooking techniques and traditions that make up French gastronomy, which allow them to prepare the most representative dishes of each region, as well as the recipes of contemporary French cuisine.
MEXICAN CUISINE	LCU4021	At the end of the course, the student will identify the basis of Mexican cuisine, its cooking techniques, its pre-Hispanic products through the cuisines of the

		country, how it was merged and learn why today it is one of the most important cuisines worldwide.
NEW BUSINESS APPROACHES FOR HOTELS AND RESTAURANTS	**LHR3041**	At the end of the course, the student will identify and analyze possible forms of business common in the hospitality industry, outline the conceptual and operational framework related to each business approach, analyze and argue about the related problem to offer solutions, as well as determine what is the best business alternative in a situation.
PROFESSIONAL PRACTICE IV	**LCU4041**	At the end of the course, the student will apply their knowledge and acquire skills by joining multidisciplinary teams to perform specific work in the different areas of the Culinary Arts and solve situations of adaptation to a new work environment.
SOMMELIER	**LCU4031**	At the end of the course, the student will describe all the functions performed by a sommelier inside and outside a restaurant and the training he must have.
ASIAN CUISINE	**LCU4071**	At the end of the course, the student will identify the different trends in Asian cuisine, as well as their products, history, handling and use of them.
SPANISH CUISINE	**LCU4051**	At the end of the course, the student will apply the various products, equipment, cooking techniques as well as analyze the various traditions that make up Spanish gastronomy, in such a way that they allow him to prepare the most representative dishes of each region.
ITALIAN CUISINE	**LCU4061**	At the end of the course, the student will apply the various products, equipment, cooking techniques and evaluate the traditions that make up Italian gastronomy, which allows him to prepare the most representative dishes of each region.
ADVANCED PASTRIES	**LCU4081**	At the end of the course, the student will apply advanced techniques in baking as well as in the preparation of classic desserts in international cuisine.
SELECT TOPICS I	**TCU4021**	At the end of the course, the student will describe and apply the current Mexican cuisine, its new trends as well as the rescue of utensils, ingredients and recipes with different presentations, in addition to continuing with the history of Mexican cuisine from Independence to the present.
SELECT TOPICS III	**TCU4031**	At the end of the course, the student will identify and apply the different techniques and trends in the

		culinary preparation for the creation of contemporary dishes.

LICENCIATURA IN BANKING AND INVESTMENT

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO FINANCIAL ANALYSIS	LBN1011	At the end of the course, the student will master the basics of financial analysis and properly apply the most basic valuation models.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	MAT1041	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
PRINCIPLES OF ECONOMICS	LEC1011	At the end of the course, the student will understand the essential aspects of the most relevant economic problems and to use the most basic techniques of Economic analysis to propose solutions.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	MAT1051	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.
CAPITAL BUDGET ANALYSIS	LBN1021	At the end of the course, the student will identify the most important decisions in corporate finance in general, and in particular those concerning the capital budget. It also elaborates, proposes and justifies investment projects

CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MACROECONOMICS I	LEC1031	At the end of the course, the student will use a simple macroeconomic model to understand how activity levels are determined in a closed economy in the short and medium term.
MICROECONOMICS I	LEC1021	At the end of the course, the student will handle the techniques of economic modeling of markets through graphical analysis and master the implications of different market structures for economic efficiency, as well as with policies that could potentially correct distortions. The student develops economic intuition and understands the functioning of markets as a result of the individual decisions of consumers and companies; he also knows how to solve microeconomic problems from a geometric point of view.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
FINANCIAL ACCOUNTING	LFP1011	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MACROECONOMICS II	LEC2021	At the end of the course, the student will use a simple macroeconomic model to understand how activity levels are determined in the short term in an open

		economy, how the long-term economic growth rate is determined, and how the basic tools of intertemporal analysis are applied.
MICROECONOMICS II	LEC2011	At the end of the course, the student will reason abstractly and mathematically for the resolution of the advanced problems of a company in the competitive market. With these tools the student poses and solves problems from an integral point of view and according to the change in one of the variables. Likewise, the student knows how to handle different production functions and can anticipate production decisions by a company in a competitive environment.
PROBABILITY AND STATISTICS	MAT2061	At the end of the course, the student will handle the basic concepts of statistics and probability and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.
INVESTMENT ANALYSIS I	LBN2011	At the end of the course, the student will understand the basic strategies for the valuation of any investment in general, and, particularly, those of a financial nature. It is also capable of adequately preparing, justifying and defending investment proposals in fixed income instruments.
CAPITAL STRUCTURE ANALYSIS	LBN2021	At the end of the course, the student will identify the most important decisions in corporate finance in general and those concerning the capital structure and dividend policy, understanding the delicate relationship between the capital structure of a company and its possibilities of bankruptcy. Likewise, the student elaborates, proposes and justifies different financing alternatives for investment projects.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
INTERMEDIATE ACCOUNTING I	LFP1041	At the end of the course the student will interpret and apply the basic theory of accounting according to IFRS, IMCP, FASB and IASB as support and mastery of theoretical and practical knowledge that supports

		reasoning and validity to the application of rules and regulations of the different elements of Financial Information; this to solve specific problems within economic entities.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
PROBABILITY AND ADVANCED STATISTICS	MAT2071	At the end of the course, the student will apply statistical methods, to make inferences about the population parameters in problems related to their area of study.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
INVESTMENT ANALYSIS II	LBN3011	At the end of the course, the student will understand the basic strategies for the valuation of any investment in general, and particularly those of a financial nature. It is also capable of adequately preparing, justifying and defending investment portfolio proposals.
COMMERCIAL BANKING	LBN3021	At the end of the course, the student will master the main strategies used by the different financial intermediaries in general, and commercial banks in particular, to manage their assets and liabilities. In the same way, it understands the fundamental regulatory elements of commercial banking.
INTERMEDIATE ACCOUNTING II	LFP2011	At the end of the course the student will analyze and apply the conceptual framework and practice of all liabilities and capital, through the identification of principles, evaluation rules, procedures and rules of presentation of the Balance Sheet and the Statement of Change in the Financial Situation. It is also able to determine the qualitative characteristics and guidelines of cash valuation and working capital as a support for the practice of the accounting profession in Mexico and internationally.

CORPORATE LAW	LDE3031	At the end of the course, the student will establish in writing a strategic plan for the prevention and management of risks in a given company and, where appropriate, propose the means for their legal defense.
ECONOMETRICS I	LEC3011	At the end of the course, the student will use mathematical and statistical tools to test hypotheses and quantitatively analyze economic relations. The knowledge acquired during the course allows him to propose econometric models to be able to analyze the relationships between economic variables.
SELECT TOPICS I	TBN4011	At the end of the course, the student will apply new analytical and/or quantitative skills within the field of Finance, Business or Social Sciences.
COST ACCOUNTING	CON1011	At the end of the course, the student will apply and master the way to determine the cost of production and to design a cost system in a company, understanding that costs represent one of the most important lines in the operation and management of a company.
ECONOMETRICS II	LEC3051	At the end of the course, the student will develop statistical models of time series that allow to describe the behavior of the data of a variable and the realization of forecasts. Statistical tools allow you to model the variance behavior of a time series and propose models that allow you to analyze the relationships between economic variables over time.
MEXICAN ECONOMY	LEC3061	At the end of the course, the student will establish a bridge between the economic theories seen in other courses and the reality of the Mexican economy, developing a broad vision of the current economic problems of Mexico, from a long-term retrospective analysis.
TAX LEGISLATION I	LFP3031	At the end of the course the student will be able to identify the importance of tax law within the tax administration and in business, describing a brief legal overview on the nature and application of some tax precepts such as the Fiscal Code of the Federation and its regulations, the Law of the Tax Administration Service , the Organic Law of the Federal Court of Fiscal and Administrative Justice, the Federal Law of The Contentious Administrative Procedure, the Amparo Trial in Fiscal Matters and in general the Means of

		defense before Federal, State and Municipal authorities. You will also know the fiscal principles as well as the Online Justice System and the Trial in the Summary route.
SELECT TOPICS II	**TBN4021**	At the end of the course, the student will apply new analytical and/or quantitative skills within the field of Finance, Business or Social Sciences.
SECURITIES AND CREDIT OPERATIONS	**LDE3011**	At the end of the course, the student will identify the requirements that any credit title must contain to be considered as such of those that are correctable, as well as interpret the provisions of the General Law of Titles and Credit Operations that are applicable for this purpose.
INVESTMENT BANKING	**LBN4031**	At the end of the course, the student will understand the functions and services provided by an investment bank, including the particularities of its regulatory framework. In addition, the student properly applies valuation methods such as: analysis of comparable companies and preceding transactions, discounting cash flows and valuation of leveraged purchases (LBOs).
BANKING LAW	**LDE3041**	At the end of the course, the student will identify and apply the rules that regulate the activities of banking companies and their operations in the intermediation in credit operations.
TAX LEGISLATION II	**LFP3041**	At the end of the course, the student will update his tax knowledge acquired in the previous courses by reforms in tax provisions. It will analyze, outline and define in an integral and related way the Income Tax Law at the same time as the Value Added Tax Law and the Single Rate Business Tax and the Cash Deposits Tax, to successfully address the subsequent courses in tax matters.
PROFESSIONAL PRACTICE I	**LBN4011**	At the end of the course, the student will propose, develop and present a scientific research work, up to the stage of bibliographic review and database development.
DERIVATIVES	**LBN4021**	At the end of the course, the student will understand the general characteristics of the different derived products and the methods that are used for their valuation. Likewise, it proposes investment strategies, both speculative and hedging.

SELECT TOPICS III	TBN4031	At the end of the course, the student will apply new analytical and/or quantitative skills within the field of Finance, Business or Social Sciences.
PRIVATE BANKING	LBN4041	At the end of the course, the student will properly analyze the risk-return profile of less conventional investment alternatives, such as: structured and synthetic products, mutual funds, hedge funds, venture capital funds, private equity funds, commodities and real estate.
BEHAVIORAL ECONOMICS	LEC4061	At the end of the course, the student will identify the different aspects that, from a psychological point of view, intervene in the decisions of an individual in terms of investment and in their behavior as being. Manage and interpret the elements that allow to reduce the mistakes that individuals can make.
VOCATIONAL CERTIFICATION TRAINING I	LBN4061	At the end of the course, the student will master the financial, economic, mathematical and accounting concepts that are required to be able to obtain professional certification as a proxy financial advisor. Likewise, the student uses the analysis techniques that are required to advise clients in the purchase and sale of shares, bonds, bonds, certificates and/or shares of investment companies. Finally, the student understands both the regulatory and regulatory framework, as well as the legal elements of the Mexican financial system.
VOCATIONAL CERTIFICATION TRAINING II	LBN4071	At the end of the course, the student will master the financial, economic, mathematical and accounting concepts that are required to be able to obtain professional certification as a proxy financial advisor. Likewise, the student uses the analysis techniques that are required to advise clients in the purchase and sale of shares, bonds, bonds, certificates and/or shares of investment companies. Finally, the student understands both the regulatory and regulatory framework, as well as the legal elements of the Mexican financial system.
TRAINING FOR PROFESSIONAL CERTIFICATION III	LBN4081	At the end of the course, the student will master the financial, economic, mathematical and accounting concepts that are required to be able to obtain professional certification as a proxy financial advisor. Likewise, the student uses the analysis techniques that are required to advise clients in the purchase and sale of shares, bonds, bonds, certificates and/or shares of

		investment companies. Finally, the student understands both the regulatory and regulatory framework, as well as the legal elements of the Mexican financial system.
PROFESSIONAL PRACTICE II	**LBN4051**	At the end of the course, the student will propose, develop and present a scientific research work, up to the stage of data management, analysis of results and conclusions.

LICENCIATURA IN ECONOMICS

ENGLISH I	**ESP0011**	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
INTRODUCTION TO FINANCIAL ANALYSIS	**LBN1011**	At the end of the course, the student will master the basics of financial analysis and properly apply the most basic valuation models.
FOREIGN LANGUAGE I	**LEX0111**	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRECALCULUS	**MAT1041**	At the end of the course, the student will learn the uses of elementary mathematical concepts and techniques to solve problems related to their studes, efficiently using algebra to solve typical problems, building graphs of functions related to current problems.
PRINCIPLES OF ECONOMICS	**LEC1011**	At the end of the course, the student will understand the essential aspects of the most relevant economic problems and to use the most basic techniques of Economic analysis to propose solutions.
QUANTITATIVE REASONING	**MAT0011**	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
LINEAR ALGEBRA	**MAT1051**	At the end of the course, the student will solve systems of linear equations with MATLAB, solve matrix equations, handle the properties of determinants, solve concrete problems of angle, distance, intersection, relative position, recognize and verify the structure of vector spaces, bases and dimensions, build the matrix of a linear transformation.

ANALYSIS OF THE CAPITAL BUDGET	LBN1021	At the end of the course, the student will identify the most important decisions in corporate finance in general, and in particular those concerning the capital budget. It also elaborates, proposes and justifies investment projects
CALCULUS I	MAT1061	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MACROECONOMICS I	LEC1031	At the end of the course, the student will use a simple macroeconomic model to understand how activity levels are determined in a closed economy in the short and medium term
MICROECONOMICS I	LEC1021	At the end of the course, the student will handle the techniques of economic modeling of markets through graphical analysis and master the implications of different market structures for economic efficiency, as well as with policies that could potentially correct distortions. The student develops economic intuition and understands the functioning of markets as a result of the individual decisions of consumers and companies; he also knows how to solve microeconomic problems from a geometric point of view.
CALCULUS II	MAT1071	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MACROECONOMICS II	LEC2021	At the end of the course, the student will use a simple macroeconomic model to understand how activity levels are determined in the short term in an open economy, how the long-term economic growth rate is

		determined, and how the basic tools of intertemporal analysis are applied.
MICROECONOMICS II	LEC2011	At the end of the course, the student will reason abstractly and mathematically for the resolution of the advanced problems of a company in the competitive market. With these tools the student poses and solves problems from an integral point of view and according to the change in one of the variables. Likewise, the student knows how to handle different production functions and can anticipate production decisions by a company in a competitive environment.
PROBABILITY AND STATISTICS	MAT2061	At the end of the course, the student will handle the basic concepts of statistics and probability, and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models to calculate probabilities of real-life phenomena and to apply statistical methodology in the decision-making processes before uncertain phenomena.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
INVESTMENT ANALYSIS I	LBN2011	At the end of the course, the student will understand the basic strategies for the valuation of any investment in general, and, particularly, those of a financial nature. It is also capable of adequately preparing, justifying and defending investment proposals in fixed income instruments.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
INTERNATIONAL TRADE	LEC2051	At the end of the course, the student will analyze, according to the main theoretical approaches within the economy, how the trade patterns of countries are determined, as well as understand the influence that economic policy can exert on these patterns.

ORDINARY DIFFERENTIAL EQUATIONS	MAT2051	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variation of parameters of indeterminate coefficients and by means of power series; to pose and solve problems of exponential growth, cooling, mixtures and orthogonal trajectories, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables, to solve problems of initial values for linear differential equations and for integral-differential equations.
PUBLIC FINANCES	LEC2031	At the end of the course, the student will apply the fundamentals of welfare theory that justify the intervention of the public sector in the economy. It will also manage the fundamentals of tax theory and the influence of various government spending programs on the economic well-being of the population.
PROBABILITY AND ADVANCED STATISTICS	MAT2071	At the end of the course, the student will apply statistical methods, to make inferences about the population parameters in problems related to their area of study.
GAME THEORY	LEC2041	At the end of the course, the student will apply their analytical skills to formalize, through the techniques of game theory, any type of socioeconomic problem and, in this way, achieve a better understanding of it.
INVESTMENT ANALYSIS II	LBN3011	At the end of the course, the student will understand the basic strategies for the valuation of any investment in general, and particularly those of a financial nature. It is also capable of adequately preparing, justifying and defending investment portfolio proposals.
ECONOMETRICS I	LEC3011	At the end of the course, the student will use mathematical and statistical tools to test hypotheses and quantitatively analyze economic relations. The knowledge acquired during the course allows him to propose econometric models to be able to analyze the relationships between economic variables.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this

		issue, as well as the policies conducive to carrying out significant socially responsible changes.
MACROECONOMICS III	LEC3041	At the end of the course, the student will use advanced mathematical models to understand how an open economy works in the short and medium term, under different combinations of international mobility of capital and exchange rate regime.
MICROECONOMICS III	LEC3031	At the end of the course, the student will use a formal analytical instrument of consumption theory that allows him to pose and solve a problem from an integral point of view, as well as propose alternative models of utility. The student can apply abstract reasoning based on economic tools and interpret consumer behavior.
SELECT TOPICS I	TEC4011	At the end of the course, the student will apply new analytical and/or quantitative skills within the field of Economics, Business or Social Sciences.
ECONOMIC GROWTH	LEC3091	At the end of the course, the student will use mathematical models to understand how the rate of economic growth of a country is determined in the long term, according to neoclassical theory with recent approaches, as well as with specialized models for developing economies.
ECONOMETRICS II	LEC3051	At the end of the course, the student will develop statistical models of time series that allow to describe the behavior of the data of a variable and the realization of forecasts. Statistical tools allow you to model the variance behavior of a time series and propose models that allow you to analyze the relationships between economic variables over time.
MEXICAN ECONOMY	LEC3061	At the end of the course, the student will establish a bridge between the economic theories seen in other courses and the reality of the Mexican economy, developing a broad vision of the current economic problems of Mexico, from a long-term retrospective analysis.
HISTORY OF ECONOMIC THOUGHT	LEC3101	At the end of the course, the student will understand and analyze in a systematic way the different ideas, theories and economic doctrines that have emerged throughout the history of humanity.
INDUSTRIAL ORGANIZATION	LEC3071	At the end of the course, the student will analyze the interactions in a market between companies. The

		student knows how to propose different strategies for a company in a market with a small number of competitors, analyzing the short and long-term consequences. It also knows how to determine different levels of competition under a strategic approach in a market with a small number of competitors.
SELECT TOPICS II	**TEC4021**	At the end of the course, the student will apply new analytical and/or quantitative skills within the field of Economics, Business or Social Sciences.
ECONOMIC DEVELOPMENT	**LEC4051**	At the end of the course, the student will handle the various economic theories designed to explain the factors that affect, in a favorable or unfavorable way, on the economic development of nations.
ECONOMETRICS III	**LEC4011**	At the end of the course, the student will propose a system of simultaneous equations and develop statistical models that allow to describe the probability of occurrence of an event. The student with the acquired knowledge can model behaviors and aggregations based on different variables. Likewise, the student can propose models that allow to analyze the relationships between economic variables through different moments in time.
ECONOMIC HISTORY OF MEXICO	**LEC4041**	At the end of the course, the student will critically understand the economic history of Mexico, from pre-Hispanic times to the Revolution of 1910.
PROFESSIONAL PRACTICE I	**LEC4021**	At the end of the course, the student will be able to propose, develop and present a scientific research work, up to the stage of bibliographic review and database development.
FINANCIAL ECONOMICS SEMINAR	**LEC4031**	At the end of the course, the student will identify the different actors operating in the financial markets, relating them to the socio-economic environment of the users. He knows how to propose and develop an analysis framework with a critical perspective for the interaction between different intermediaries. The student interprets the causes of low financial inclusion and knows the strategies that individuals implement when they require additional resources. It also knows how to propose financial inclusion and financial policy strategies aimed at the most vulnerable socio-economic strata.

SELECT TOPICS III	TEC4031	At the end of the course, the student will apply new analytical and/or quantitative skills within the field of Economics, Business or Social Sciences.
BEHAVIORAL ECONOMICS	LEC4061	At the end of the course, the student will identify the different aspects that, from a psychological point of view, intervene in the decisions of an individual in terms of investment and in their behavior as being. Manage and interpret the elements that allow to reduce the mistakes that individuals can make.
INSTITUTIONAL ECONOMICS	LEC4091	At the end of the course, the student will understand the influence that its institutional, sociological and cultural framework has on the performance of any economy. In addition, it identifies the different ways in which economic performance influences the nature of its institutional, sociological and cultural framework.
APPLIED MICROECONOMICS	LEC4111	At the end of the course, the student will propose a project and develop the main elements that compose it with a critical perspective. The student uses tools from different areas of knowledge for the evaluation of a project according to the benefits of the same. Likewise, he knows how to apply knowledge from specialized areas within the economy and acquire the techniques to evaluate private and public projects, knowing the appropriate methodologies for each case.
ECONOMIC POLICY	LEC4101	At the end of the course, the student will analyze the reasons and effects of monetary and fiscal policy actions in open and closed economies, in the short and medium term, with the help of mathematical models.
PROFESSIONAL PRACTICE II	LEC4071	At the end of the course, the student will be able to propose, develop and present a scientific research work, up to the stage of data management, analysis of results and conclusions.
ECONOMIC ANALYSIS SEMINAR	LEC4081	At the end of the course, the student will understand the processes of price formation and income generation associated with peculiar activities and phenomena (agricultural, regional, environmental, labor, educational, among others) as well as the role that this activity or phenomenon plays in the economic development of a society.

LICENCIATURA IN FINANCIAL STRATEGIES AND PUBLIC ACCOUNTING

FINANCIAL ACCOUNTING	LFP1011	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS I	MAT1021	At the end of the course, the student will properly handle the basic algebraic concepts. Propose and solve systems of equations that represent problems of percentages and calculation of interests, as well as master trigonometric mathematical tools to pose and solve geometric problems.
PERSPECTIVES ON FINANCE AND ACCOUNTING	LFP1021	At the end of the course the student will understand the importance of adapting to the constant changes that bring with them the development of finance and public accounting which, by the very nature of the Profession, require a deepening in the theoretical content which will allow him to compare, reason and analyze the knowledge of the different or diverse theories of finance and accounting. It also interprets economic factors and the nature of operations to provide a mechanism of reasoning and the development of critical thinking on the validity of the application of rules, principles and specific criteria in various aspects of finance and accounting and the possibility of developing attitudes of honesty and ethics that are necessary in their professional practice.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.

COST ANALYSIS	LFP1051	At the end of the course, the student will apply and master the way to determine the cost of production and design a cost system in a company, understanding that costs represent one of the most important lines in the operation and management of a company.
INTERMEDIATE ACCOUNTING I	LFP1041	At the end of the course the student will interpret and apply the basic theory of accounting according to IFRS, IMCP, FASB and IASB as support and mastery of theoretical and practical knowledge that supports reasoning and validity to the application of rules and regulations of the different elements of Financial Information; this to solve specific problems within economic entities.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS II	MAT1031	At the end of the course, the student will adequately handle the fundamental concepts of differential and integral calculus, solve problems of business cases, problems applied to the economic-administrative and social area, and represent the behavior of surpluses of consumers and producers and give solution to problems of a business nature.
ADMINISTRATION OVERVIEW	ADM1011	At the end of the course, the student will describe the nature of the administration, its characteristics and its dynamic process, in addition to understanding the essence of the administrative profession and the functional areas in business.
FINANCIAL VALUATION	LFP1031	At the end of the course, the student will know the fundamental concepts of financial valuation, as well as the required mathematical formulation and the functions available in Excel and financial calculator to facilitate its calculation. The student will also master the mathematical foundations of financial valuation, necessary to make projections, valuation and financial measurements.
STATISTICAL ANALYSIS	MAT2011	At the end of the course, the student will apply the basic tools of descriptive statistics in various practical problems, calculating elementary probabilities,

		identifying and properly applying the most elementary models of probability to practical problems, in addition to managing the main distributions and confidence intervals.
MANAGEMENT ANALYSIS	LFP2021	At the end of the course, the student will apply the costs for planning and control purposes, using the different tools that will be handled in the course allowing the student to make short-term decisions in companies.
INTERMEDIATE ACCOUNTING II	LFP2011	At the end of the course the student will analyze and apply the conceptual framework and practice of all liabilities and capital, through the identification of principles, evaluation rules, procedures and rules of presentation of the Balance Sheet and the Statement of Change in the Financial Situation. It is also able to determine the qualitative characteristics and guidelines of cash valuation and working capital as a support for the practice of the accounting profession in Mexico and internationally.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
PRINCIPLES OF MICROECONOMICS	ECO1011	At the end of the course, the student will handle the basic elements of economic analysis emphasizing its application to consumer and business decision-making.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
INVESTMENT PORTFOLIO MANAGEMENT	LFP2061	At the end of the course, the student will apply the techniques to form diversified investment portfolios that optimize the parameters of expected return contrasted with risk, and to recognize the importance of the correct investment of financial surpluses, either in portfolios developed individually or through a financial institution dedicated to it.

FINANCIAL ANALYSIS AND PLANNING	**LFP2041**	At the end of the course the student will analyze, identify and argue the role of the financial manager within companies and the different ways in which they operate. It is also able to apply the basic tools of Financial analysis and Planning, the evaluation of financial performance through the analysis of financial reasons and cash flow, the structure of the asset and the financial structure. It also includes the integrated budget system as well as variable and flexible budgets, the long-term budget and budget control.
FINANCIAL AND ACCOUNTING APPLICATIONS	**LFP2031**	At the end of the course the student will develop projects within the financial-accounting area that support the information processes for management decision-making, supported by the necessary computing tools. The student is also able to apply tools in computer programs, as well as knowledge in the financial and accounting area for management decision-making.
ART, HISTORY AND CULTURE	**AHC0011**	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
ENTREPRENEURIAL CULTURE	**LAD2051**	At the end of the course, the student will formulate, plan and implement a new business initiative, through the use of methods and tools that allow him to approach it with an entrepreneurial approach.
FORECASTING METHODS	**MAT2081**	At the end of the course, the student will measure the goodness of forecasting methods through Residual analysis, to identify and correctly apply seasonal and non-seasonal stationary and trending methods and regression methods for seasonal series, and to construct forecast prediction intervals.
CORPORATE REGULATION	**LFP2051**	At the end of the course, the student will identify and outline the legal order of the United Mexican States as well as the normative aspects of contracting in the civil and commercial field, this to know the fundamental principles of law, the legal and economic consequences of the good or bad application of the regulations in micro and macro companies considering the civil and commercial contractual aspects that respond to the needs of analysis presented by the company. Likewise, the student will list and describe

		the different social obligations through the compilation and use of knowledge of the exhaustive and concrete legal regulation for the resolution of the problems of companies in the development of business at national and international level.
LABOR LAW	LDE1031	At the end of the course, the student will apply in specific cases the rights and obligations that workers and employers have reciprocally; analyze the negotiation of a strike from the worker or employer perspective as well as identify and resolve legal problems related to the interpretation and application of the rules that regulate worker-employer relations with support in doctrine and jurisprudence.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
COMPANY FINANCES	LFP3011	At the end of the course the student will be able to analyze and argue the theory and practice of the financial functions of the determination of the cost and the capital structure, as well as the administration of working capital. Analyze and develop methods, cases and problems in the topics of cost of capital, financial leverage, theories of capital structure, and dividend policy, cash management, accounts receivable and inventories, as well as analysis of short-term financing sources.
TAX LEGISLATION I	LFP3031	At the end of the course the student will be able to identify the importance of tax law within the tax administration and in business, describing a brief legal overview on the nature and application of some tax precepts such as the Fiscal Code of the Federation and its regulations, the Law of the Tax Administration Service , the Organic Law of the Federal Court of Fiscal and Administrative Justice, the Federal Law of The Contentious Administrative Procedure, the Amparo Trial in Fiscal Matters and in general the Means of defense before Federal, State and Municipal

		authorities. You will also know the fiscal principles as well as the Online Justice System and the Trial in the Summary route.
AUDIT RULES AND PROCEDURES	**LFP3021**	At the end of the course the student will be able to understand the processes involved in the planning, execution and supervision of an audit on financial statements, identifying a complete picture of what is the work of the auditor and the tools he uses for the professional fulfillment of his activity.
PRINCIPLES OF MACROECONOMICS	**ECO1021**	At the end of the course, the student will identify, define and use the main variables of the short- and long-term macroeconomic analysis.
ANALYSIS OF INVESTMENT PROJECTS	**LFP3051**	At the end of the course, the student will identify, analyze and outline the tools and methods to evaluate investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk. Also to define and develop evaluation methods considering market, technical, administrative, legal, financial, economic and social factors, giving greater emphasis to financial and economic study
FOREIGN TRADE AND INTERNATIONAL TREATIES	**LFP3071**	At the end of the course the student will be able to identify, describe and use the laws of VAT, Foreign Trade, Customs and General Import and Export Taxes in the performance of import and export operations of goods and services as well as within the general framework of the international trade treaties of Mexico with the rest of the world.
HUMAN BEHAVIOR IN ORGANIZATIONS	**LAD1021**	At the end of the course, the student will develop and promote the understanding of the dynamics of people in organizations, to conduct themselves in an assertive way in their interactions and thus contribute to organizational objectives.
ADVANCED AND NON-PROFIT ACCOUNTING	**LFP3061**	At the end of the course, the student will know the accounting treatment given to non-profit and governmental entities as well as to companies with special transfers that require specific accounting processes in the current legal and accounting environment.
BUSINESS STRATEGIES	**LAD4041**	At the end of the course, the student will think strategically about the company, its current position, long-term vision, its resources and capabilities,

		competitive capabilities, strategic approach and opportunities to achieve sustainable competitive advantages.
TAX LEGISLATION II	**LFP3041**	At the end of the course, the student will update his tax knowledge acquired in the previous courses by reforms in tax provisions. It will analyze, outline and define in an integral and related way the Income Tax Law at the same time as the Value Added Tax Law and the Single Rate Business Tax and the Cash Deposits Tax, to successfully address the subsequent courses in tax matters.
INTERNATIONAL FINANCE	**LFP4041**	At the end of the course the student will use, analyze and outline the economic-financial tools necessary for the Financial Administration of companies in the international arena, understanding the operation of international financial markets emphasizing the foreign exchange market. It is also able to identify the operation of the different derivative financial instruments and their use for hedging and speculation and to define other mechanisms in the international financial market for the purpose of making international investments or obtaining international financing. It is also in possibilities to minimize risk and optimize the profitability of international companies.
DERIVATIVE FINANCIAL INSTRUMENTS	**LFP4051**	At the end of the course the student will outline and manage the different derivative instruments for the management of the financial risk of companies planning hedging and speculative strategies, as well as valuing each instrument by determining its value at risk.
TAX LEGISLATION III	**LFP4031**	At the end of the course the student will have updated his fiscal knowledge acquired in the previous courses, by reforms taken in tax provisions. You will be able to identify, describe and use the Income Tax Law on a par with the Value Added Tax, the Single Rate Business Tax and the Cash Deposits Tax in the development of the operations of natural and legal persons
PROFESSIONAL PRACTICE I	**LFP4011**	At the end of the course, the student will put into practice the knowledge acquired in his career to diagnose, plan, evaluate and take part in the solution of problems and situations of his Profession, establishing a link between theory and practice; between university and society; between their aspirations and the needs of their environment.

DECISION SUPPORT SYSTEMS	**LFP4021**	At the end of the course, the student will analyze the role of systems for decision support as an element of support to the financial decision-making process through the study of concepts, tools, research and development of cases and projects.
SELECT TOPICS I	**TFP4011**	At the end of the course, the student will know and analyze in depth the selected topic on Administration and Finance, to keep you updated on the various aspects that make up the environment of this important area of knowledge in Administration and Finance.
COMPREHENSIVE RISK ANALYSIS	**LFP4091**	At the end of the course, the student will identify the risk in a company, establishing strategies to minimize it to a reasonable level considering the benefit that the company wants to obtain and the effort it is willing to make.
PAYROLL CONTRIBUTIONS	**LFP4081**	At the end of the course the student will identify, describe and use the Social Security laws and their Regulations and other regulations, the Institute of the National Housing Fund for Workers, the Retirement Savings System its Regulations Rules and Circulars, the Income Tax and state payroll taxes at the national level describing a perspective of social security at the international level.
OPINIONS	**LFP4071**	At the end of the course the student will be able to identify the application of the different opinions presented to authorities at national level as the characteristics of the opinion at international level. It will also analyze and interpret the different opinions of the auditor because of its review.
PROFESSIONAL PRACTICE II	**LFP4061**	At the end of the course, the student will put into practice the knowledge acquired through his career to diagnose, plan, evaluate and take part in the solution of problems and situations of his Profession, establishing a link between theory and practice; between university and society; between their aspirations and the needs of their environment.
SELECT TOPICS II	**TPF4021**	At the end of the course, the student will know and analyze in depth the selected topics on Administration and Public Accounting, to stay updated on the various aspects that make up the environment of this important area of knowledge in the Administration and Public Accounting.

SELECT TOPICS III	TPF4031	At the end of the course, the student will know and analyze in depth the selected topic on the Administration and The Tax Legislation, to stay updated on the various aspects that make up the environment of this important area of knowledge in the Administration and the Tax Legislation.

LICENCIATURA IN MATHEMATICS AND ECONOMICS

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
FOREIGN LANGUAGE III	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of the artifact and its conservation.

ETHICS FOR SUSTAINABLE DEVELOPMENT	**EDS0011**	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
INTRODUCTION TO FINANCIAL ANALYSIS	**LBN1011**	At the end of the course, the student is able to master the basics of financial analysis and properly apply the most basic valuation models
PRINCIPLES OF ECONOMICS	**LEC1011**	At the end of the course, the student is able to understand the essential aspects of the most relevant economic problems and to use the most basic techniques of Economic analysis to propose solutions.
ANALYTIC GEOMETRY	**LME1011**	At the end of the course, the student is able to use vectors to calculate lengths and angles and obtain the equations of lines, planes, circumferences and spheres; to identify the conics from their equations and from the application of traslación and rotation of axes; and to make coordinate changes between cartesian coordinates and polar coordinates.
MICROECONOMICS I	**LEC1021**	At the end of the course, the student will handle the techniques of economic modeling of markets through graphical analysis and master the implications of different market structures for economic efficiency, as well as with policies that could potentially correct distortions. The student develops economic intuition and understands the functioning of markets as a result of the individual decisions of consumers and companies; likewise, it knows how to solve problems of the microeconomics from a geometric point of view
INTRODUCTION TO PROGRAMMING	**LIS1011**	At the end of the course, the student will master the basic concepts of structures, conditions, variables, headings to make programs that solve problems in general.
MATRIX THEORY	**LME1021**	At the end of the course, the student will apply the conceptionsand properties of the elements defined in Linear Algebra to various problems of Geometry, linear programming and differential equations

MATHEMATICAL ANALYSIS I	**LME1031**	At the end of the course, the student is able to understand and explain the theory of continuous functions, differential calculus, the relationship between integration and derivation, logarithm and exponential functions, the approximation of functions by polynomials and sequences and series of numerical and functions, as well as improper integrals.
CALCULUS I	**MAT1061**	At the end of the course, the student will analyze various situations and related problems and to apply differential and integral calculus in the solution of problems.
MICROECONOMICS II	**LEC2011**	At the end of the course, the student will reason abstractly and mathematically for the resolution of the advanced problems of a company in the competitive market. With these tools the student poses and solves problems from an integral point of view and according to the change in one of the variables. Likewise, the student knows how to handle different production functions and can anticipate production decisions by a company in a competitive environment.
MATHEMATICAL ANALYSIS II	**LME2011**	At the end of the course, the student is able to understand and explain the theory of differential calculus of scalar and vector fields, line integrals, multiple integrals and surface integrals.
CALCULUS II	**MAT1071**	At the end of the course, the student will analyze various situations, real problems and apply the differential and integral calculation of several variables in the solution of problems and in decision-making.
PROBABILITY AND STATISTICS	**MAT2061**	At the end of thecourse, the student will handle the basic concepts of statistics and probability, and analyze in graphical and numerical form the distribution of a set of quantitative data, to use different discrete and continuous models for calculation of probabilities of real-life phenomena and to apply statistical methodology in the decision-makingprocesses before uncertainphenomena.
ANALYSIS OF THE CAPITAL BUDGET	**LBN1021**	At the end of the course, the student will identify the most important decisions in corporate finance ingeneral, and in particular those concerning the capital budget. It also elaborates, proposes and justifies investment projects
MACROECONOMICS I	**LEC1031**	At the end of the year,the learner will use a simple macroeconomic model tounderstand how

		activity levels are determined in aclose economy in the near and medium term.
GAME THEORY	**LEC2041**	At the end of the course, the student is able to apply their analytical skills to formalize, through the techniques of game theory, any type of socioeconomic problem and, in this way, achieve a better understanding of it.
MATHEMATICAL ANALYSIS III	**LME2021**	At the end of the course, the student will determine whether a setco-lesson is sigma-algebra, to propose new sigma algebras, to verify the measurableness of a con functionwith respect to a given sigma-algebra, to determine whether a function is a measure, to tri-random graphs of simple functions, to integrate simple functions and to verify integrability of measurable functions and to handle the applications of spaces in probability.
ORDINARY DIFFERENTIAL EQUATIONS	**MAT2051**	At the end of the course, the student will solve ordinary equations of the first order and differential equations of the second order indomogeneous by the methods of variationof parameters of indeterminate coefficients and by medior ofpower series; to raise and solve problems of growth andxponencial, cooling, mixtures and trorthogonal ayectorias, mechanical problems of mass-spring, circuits and mixtures; of obtaining the Laplace transform of a function from the definition and using tables , to solve problems of initial values for linear differential equations and for integro-differential equations.
PROBABILITY AND ADVANCED STATISTICS	**MAT2071**	At the end of thecourse, the student will apply statistical methods, to inferinferencias on thepopulation parameters in problems related to his area ofstudy.
MACROECONOMICS II	**LEC2021**	At the end of the course, the student is able to use a simple macroeconomic model to understand how activity levels are determined in the short term in an open economy, how the long-term economic growth rate is determined, and how the basic tools of intertemporal analysis are applied.
PARTIAL DIFFERENTIAL EQUATIONS	**LME3031**	At the end of the course, the student will calculate Fourier series, the Sturm-Liouv problemand value problems at the boundary in rectangular coordinates and other coordinate systems.
INVESTMENT ANALYSIS I	**LBN2011**	At theend of thecourse, the learner will understand the basic strategies forthe valuation of any investment

		ingeneral, and particularly those of a financial nature. It is also capable of drawing up, justifying and defending investment proposals in fixed income instruments.
ECONOMIC GROWTH	**LEC3091**	At the end of the course, the student will use matandmattic models to understand how the rate of economic growth of a country is determined in the long term, according to the theory neoclásicacon recent approaches, as well as with modeslos speciallizados for developing economies.
COMPUTATIONAL SIMULATION	**LME3061**	At the end of the course. the student will use mathematics and the computer to solve algebraic and computational problems and visualize their solutions; to design cellular automata; to simulate and model economic and physical phenomena; to solve optimization problems; and to simulate complex phenomena and series of tiempo fractales.
ECONOMETRICS	**LEC3011**	At the end of the course, the student is able to use the mathematical and statistical tools to test hypotheses and quantitatively analyze the economicrelationships. Theknowledge acquired during the course allows him to propose econometric models to be able to analyze the relationsbetween economic variables.
MICROECONOMICS III	**LEC3031**	At the end of the course, the student will use a formal analytical instrument of the theory of consumption that allows him to pose and solve a problem from an integral point of view, as well as to propose models tolternativos of utility. The student can apply abstract reasoning based on economic tools and interpret consumer behavior.
MACROECONOMICS III	**LEC3041**	At the end of the course, the student will use advanced mathematical models to understand how an open economy works in the short and medium term, under different combinaciones of movilidad international cap ital and exchangerate regime.
MODERN ALGEBRA I	**LME3011**	At the end of the curso, the alumno willcalculate congruencia classes of integers and the orden of an element in a grupo finito; to determine whether a subgroup is norrmtol; and to apply Lagrange's theorem, isomorphism theorems, and Sylow's theorem.

LINEAR PROGRAMMING	**LME3021**	At the end of the course, the student will make practical use of linear programming in various applications, to use themethods of this disciplina and the corresponding duality theory, as well as to identify the impact onthe value of a program lineal in the face of small variations in the data
MATHEMATICAL ANALYSIS IV	**LME3041**	At the end of the course, the student will identify the metric or topological properties of a general space in which the notion of distance has been defined, to describevectorspacesprovided with a norm, to manipulate problems by handling linearfunctionals, to describe the role of vector spaces with inner product, to describe and manipulate weak topologies, convexity, and convex separation theorems
NONLINEAR PROGRAMMING	**LME3051**	At the end of the course, the student is able to know the methods of solution of the nonlinear programming, to apply the necessary and sufficient conditions of optimality, to understand the principles of the duality and the qualifications of the constraints
STOCHASTIC PROCESSES AND FINANCE	**LME3071**	At the end of the calculation,the student will handle the basic concepts of stochastic processes by applying them to the construction of financial models, to determine whether a market is complete, whether there is a probability of arbitrage, to recognize different types of financial options and to handle the Cox-Ross-Rubinstein model for calculating buy and sell option prices.
DYNAMIC SYSTEMS	**LME3081**	At the end of thecourse, the student will formulate and manipulate the flows of the differential equations under the concept of dynamic system, to detect the domains of stability of the equilibrities of a dynamic system, to analyze the effects produced in its simulation by the changes in the differential equation and to determine the persistence of the phase portrait under perturbations of the vector field.
PROFESSIONAL PRACTICE I	**LME4011**	At the end of the course, the student will diagnose, plan, evaluate and take part in the solution of problems and situations of their Profession, establishing a link between theory and practice.
MODERN ALGEBRA II	**LME4021**	At the end of the course, the student is able to identify the rings as algebraicstructures, to apply and demonstrate their properties, to describe the structure of the modules and the relationship between a field and

		its finite extensions, to interpret and apply the solutions to the classical problems of rule and compass
SELECT TOPICS I	**TME4011**	At the end of the course, the student will apply the knowledge acquired in their studies to deal more deeply with some of the topics of mathematics, economics, applied mathematics and finance
PROFESSIONAL PRACTICE II	**LME4031**	At the end of the study, the student will diagnose, plan, evaluate and take part in the solution of problems and situations of his profession, establishing a link between theory and practice
CHAOTIC DYNAMICAL SYSTEMS	**LME4041**	At the end of the course, the student will determine the dynamics of a wide variety of one- and two-dimensional mappings, to calculatefixed and periodic points and the behavior of their orbits, to use the SarkovskII theorem to determine the emergence of bifurcation, to illustrate chaos in dynamical systems and to apply it to fractal geometry
INTEGER AND COMBINATORIAL PROGRAMMING	**LME4051**	At the end of thecourse, the student is able to explain the theory and practice of integer and combinatorial optimization, to manage the most usedsolution methodologies in practice,as well as to implement the methodologies studied
SELECT TOPICS II	**TME4021**	At the end of the course, the student will apply the knowledge acquired in hisstudies to deal more deeply with some of the subjects of mathematics, economics, appliedmathematicsand finance.
SELECT TOPICS III	**TME4031**	At the end of the course, the student will be able to apply the knowledge acquired in his studies to further discusssome of the subjects of mathematics, economics, applied mathematicsand fines.
ECONOMETRICS II	**LEC3051**	At the end of the course, the student is able to develop statistical models of time series that allow to describe the behaviourof the data of a variable and the realization of forecasts. Statistical toolsallow you to model the variance behavior of a time periodand to come up with models that allow you to analyze the relationship between variablis economic over the course of thetime.

LICENCIATURA IN MARKETING

ENGLISH I	ESP0011	At the end of the course, the student will write argumentative texts within their discipline, adapting the necessary writing formats to efficiently make their point.
MARKETING FUNDAMENTALS	LMK1011	At the end of the course, the student will identify the principles and key elements of marketing (product, price, place and promotion) to develop a market strategy, to create value for customers.
FOREIGN LANGUAGE I	LEX0111	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS I	MAT1021	At the end of the course, the student will properly handle the basic algebraic concepts. Propose and solve systems of equations that represent problems of percentages and calculation of interests, as well as master trigonometric mathematical tools to pose and solve geometric problems.
OVERVIEW OF THE ADMINISTRATION	ADM1011	At the end of the course, the student will describe the nature of the administration, its characteristics and its dynamic process, in addition to understanding the essence of the administrative profession and the functional areas in business.
QUANTITATIVE REASONING	MAT0011	At the end of the course, the student will pose and solve problems, translating statements into symbolic relationships and using them to communicate quantitative data and interpret graphs.
CONSUMER BEHAVIOR	LMK1021	At the end of the course, the student will understand consumer behavior in marketing practice, understand the training and change of attitudes in them, achieve an effective segmentation of the market, as well as identify the influence of contextual factors in purchasing behavior, so that it identifies the different models of the consumer's purchase process.
FINANCIAL ACCOUNTING	LFP1011	At the end of the course, the student will identify and analyze the different types of organization and the different financial statements, important and useful for proper decision-making. They will identify and define an accurate picture of what accounting means in companies, and its importance, to monitor their results.
SPANISH II	ESP0021	At the end of the course, the student will select and use information to improve their exposition and

		argumentative skills to write texts in their discipline. They will manage them as expressions to construct and disseminate academic and scientific knowledge.
FOREIGN LANGUAGE II	LEX0121	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
MATHEMATICS II	MAT1031	At the end of the course, the student will adequately handle the fundamental concepts of differential and integral calculus, solve problems of business cases, problems applied to the economic-administrative and social area, and represent the behavior of surpluses of consumers and producers and give solution to problems of a business nature.
INTERNAL MARKETING	LMK1031	At the end of the course, the student will recognize the strategic importance of the human factor in organizations, to design and implement efficient internal marketing strategies and appropriate to the needs of companies and their internal customers.
PRINCIPLES OF MICROECONOMICS	ECO1011	At the end of the course, the student will handle the basic elements of economic analysis emphasizing its application to consumer and business decision-making.
statistical analysis	MAT2011	At the end of the course, the student will apply the basic tools of descriptive statistics in various practical problems, calculating elementary probabilities, identifying and properly applying the most elementary models of probability to practical problems, in addition to managing the main distributions and confidence intervals.
COST ACCOUNTING	CON1011	At the end of the course, the student will apply and master the way to determine the cost of production and to design a cost system in a company, understanding that costs represent one of the most important lines in the operation and management of a company.
ENTREPRENEURIAL CULTURE	LAD2051	At the end of the course, the student will formulate, plan and implement a new business initiative, through the use of methods and tools that allow him to approach it with an entrepreneurial approach.
QUALITATIVE MARKET RESEARCH	LMK2011	At the end of the course, the student will carry out a qualitative Market Research on the motivations and attitudes of consumers during the process of consumption of goods and/or services, for the correct decision-making in organizations.

FOREIGN LANGUAGE II	LEX0131	At the end of the course, the student will transmit and understand known and/or new information orally and in writing.
INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE	INF0011	At the end of the course, the student will use information and communication technologies to research, make decisions, and create ideas and proposals, combining their processing skills to access, validate, share and use information effectively and ethically.
ART, HISTORY AND CULTURE	AHC0011	At the end of the course, the student will identify and analyze communication and action strategies, as well as the influence of political, social and economic change on the transformation of models, conceptualization of cultural artifact and its conservation.
COMPREHENSIVE MARKETING COMMUNICATION	LMK2021	At the end of the course, the student will understand the importance of communicating to the customer the products or services offered, through the different tools of integral marketing communication and to apply the knowledge and tools that allow him to analyze and carry out integral communication campaigns.
PRODUCT INNOVATION	LMK2031	At the end of the course, the student will have a global perspective of the importance of product innovation as a driver of growth, competitive advantage and generation of value for companies, organizations or entities in the face of a competitive market dynamics; it is also capable of making a strategy of creation or innovation of products.
QUANTITATIVE MARKET RESEARCH	LMK2041	At the end of the course, the student will identify the importance of Market Research as a fundamental tool of the marketing information system in organizations, to know the fundamental guidelines for the formulation of research designs and measurement methods that allow to study the problems related to the commercialization of goods and services. Likewise, the student will carry out a quantitative Market Research to provide accurate and pertinent information about a product or service to reduce uncertainty in making market decisions.
SERVICE MARKETING Y CRM	LMK2051	At the end of the course, the student will plan, design and implement a service offer according to the needs of the client, integrating the objectives and marketing strategies, using the quality of the service as a factor to achieve competitive advantages. Likewise, the student will design strategies and systems for the knowledge and loyalty of customers, suppliers, distributors and other

		marketing partners making use of information technology.
DECISION MODELS	LAD3021	At the end of the course, the student will identify the type of linear programming model to be used for problem solving in industry and in the company.
PRINCIPLES OF MACROECONOMICS	ECO1021	At the end of the course, the student will identify, define and use the main variables of the short- and long-term macroeconomic analysis.
FINANCIAL MANAGEMENT	CON2011	At the end of the course, the student will analyze, identify and argue the role of the financial manager within companies, the different ways in which they operate, the basic tools of Financial analysis and Planning, the evaluation of financial performance through the analysis of financial reasons and cash flow, the structure of the asset and the financial structure. It is also capable of analyzing the determinants of the valuation of financial assets, the value of money over time, risk and performance analysis and the characteristics and forms of valuation of fixed income securities and common shares in the national and international markets.
ETHICS FOR SUSTAINABLE DEVELOPMENT	EDS0011	At the end of the course, the student will identify and analyze the general sustainable development guidelines, both theoretically and in practice. They will understand the relevance of ethical behavior in designing and implementing sustainable development, analyzing Mexico's shortcomings and progress in this issue, as well as the policies conducive to carrying out significant socially responsible changes.
MARKET INTELLIGENCE	LMK3021	At the end of the course, the student will master the approaches of multivariate statistics and market intelligence to generate relevant information from internal processes and the characteristics of consumers and main competitors, turning figures and data into timely and useful information according to the strategic requirements of their organization. It is also able to identify and apply the most relevant multivariate statistical techniques in the analysis of information generated from consumer surveys, interpreting the results in an appropriate way and with the necessary tools to analyze large volumes of numerical information,

		obtained from multidimensional or transactional databases.
SOCIAL MARKETING	**LMK3011**	At the end of the course, the student will plan and carry out social marketing programs for non-profit organizations, public institutions or policies to improve the quality of life of the inhabitants.
MEDIA PLANNING AND BTL	**LMK3031**	At the end of the course, the student will identify the importance of supporting a comprehensive marketing communication strategy with the correct and effective selection of mass or alternative means of communication, through an adequate planning of means that maximize the profitability of the advertising investment.
DESIGN ASSESSMENT	**DIS3011**	At the end of the course, the student will develop evaluative skills, which allows him to recognize the effectiveness, usefulness and impact of the interfaces derived from the process of any information and communication project; to properly evaluate the solutions to design problems, to detect faults and deficiencies in the designed objects, as well as to identify successes.
PRICING STRATEGY	**LMK3051**	At the end of the course, the student will identify the strategic role of price in marketing decisions and its relationship with business decisions in the creation of value and competitive advantage. Likewise, the student will integrate the knowledge acquired in areas of knowledge in economics, finance, operations and marketing for the use of approaches and tools for pricing.
DISTRIBUTION STRATEGIES	**LMK3071**	At the end of the course, the student will develop commercial distribution strategies and integrate and relate the agents that make up the distribution channels, the functions of the different intermediaries, the characteristics of the commercial forms and the influence of the new information and communications technologies.
IMAGE AND PUBLIC RELATIONS	**LMK3061**	At the end of the course, the student will evaluate and apply basic theory, models, tools and essential techniques that intervene in the public relations function acquiring a comprehensive vision of the area and valuing

		the role it plays in any organization, as well as the importance of its public image and professional behavior. , responsible and ethical.
INTERNATIONAL MARKETING	**LMK3041**	At the end of the course, the student will identify the concepts related to international marketing, as well as to apply the concepts, theoretical guides and analyze the forces of the environment to develop strategies of products and services in international markets.
MARKET VARIABLE FORECASTS	**LMK3091**	At the end of the course, the student will master the quantitative and qualitative approaches of business forecasting and know the necessary tools to effectively manage the processes of generating forecasts of the most relevant market variables in organizations for decision-making.
CORPORATE CORPORATE REGULATION	**LFP2051**	At the end of the course, the student will identify and outline the legal order of the United Mexican States as well as the normative aspects of contracting in the civil and commercial field, this to know the fundamental principles of law, the legal and economic consequences of the good or bad application of the regulations in micro and macro companies considering the civil and commercial contractual aspects that respond to the needs of analysis presented by the company. Likewise, the student will list and describe the different social obligations through the compilation and use of knowledge of the exhaustive and concrete legal regulation for the resolution of the problems of companies in the development of business at national and international level.
sales	**LMK3081**	At the end of the course, the student will analyze the nature and importance of the role played by the sales force in the organization, in the economic systems, in the social reform movements and in the personal lives of millions of consumers and retailers that make up the marketing system.
BRANDING	**LMK4021**	At the end of the course, the student will use the basic tools to build, measure and manage a brand, so that it can maintain a lasting image, value and reputation.
EVALUATION OF INVESTMENT PROJECTS	**CON3031**	At the end of the course, the student will identify, analyze and outline the tools and methods to evaluate investment alternatives in investment projects that contribute to increase the profitability of companies and reduce their risk, as well as to define and develop

		evaluation methods, considering market factors, technical , administrative, legal, financial, economic and social giving greater emphasis to the financial and economic study.
CORPORATE SOCIAL RESPONSIBILITY	LAD4081	At the end of the course, the student will analyze the role of the company as a creator of shared value, not only economic but social; to define the social initiatives and programs that have a greater impact for the company and society and has the tools and knowledge to prepare a report and social balance for the company.
RETAILING Y MERCHANDISING	LMK4011	At the end of the course, the student will apply a strategic perspective of retail management through the study of 4P's and consumer analysis, as well as the competitive dynamics of the sector. Likewise, the student will analyze the importance of the merchandise, environment, productivity and profits to determine the retail practices based on the environment and develop the planning of the product from its origin, purchase and arrangement at the point of sale.
SELECT TOPICS I	TMK4011	At the end of the course, the student will position products and/or services effectively, developing the corresponding marketing mix and focusing on the particular needs of public and/or political institutions (NGOs, Governments, Parties).
SELECT TOPICS II	TMK4021	At the end of the course, the student will position products and/or services effectively, developing the corresponding marketing mix, focusing on the particular needs of private organizations for commercial purposes (national and global companies).
SELECT TOPICS II	TMK4031	At the end of the course, the student will position and/or sell products and/or services effectively, developing the corresponding marketing mix, focusing on the particular needs of public or private organizations and applying new tools and marketing trends through mass or alternative media of greater profitability today.
E-MARKETING	LMK4061	At the end of the course, the student will identify characteristics of Internet users and identify profitable E-Marketing strategies.
STRATEGIC MARKETING AND CONSULTING	LMK4051	At the end of the course, the student will integrate knowledge and make strategic marketing plans for the development of a consulting project, considering the needs and expectations of the client, through the use of market intelligence for decision-making in the analysis

		and diagnosis of problems and market opportunities. Likewise, the student will collaborate and lead multidisciplinary work teams.
PROFESSIONAL PRACTICE I	**LMK4031**	At the end of the course, the student will analyze the social problems of companies and the need for responsible and ethical practices in marketing. Also at the end of the professional practice the student will apply theoretical knowledge of marketing to daily practice in the company.
PROFESSIONAL PRACTICE II	**LMK4041**	At the end of the course, the student will apply the academic knowledge of Marketing for the diagnosis and resolution of problems in companies, with a critical and creative attitude, with objectivity, ethics and social responsibility.

Graduate Programs

MASTER IN BUSINESS ADMINISTRATION

MARKETING MANAGEMENT	**MNS5141**	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications to meet both the needs of their current target markets and potential new markets.
MANAGERIAL ECONOMICS	**MNS5151**	At the end of the course, the student will apply economic analysis tools to the problems faced by companies in their decisions; combining knowledge of supply and demand with market behaviour, inputs and outputs; recognizing the relationship of production and costs in the company's decision-making; understanding the different market structures and their characteristics to establish different alternative strategies that will determine the performance of the company and identifying, under an economic approach, the different internal and external factors that affect a company’s performance.

FINAL PROJECT	MNS5161	At the end of the course, the student will write an academic paper. This paper may be a case study of a specific work situation in the company where the student works, or in a company with which the university has an agreement. The paper will include solutions using the tools acquired during their studies.
ADVANCED SELECT TOPICS	MNS5171	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to their studies.
DECISION ANALYSIS	MNS5181	At the end of the course, the student will use various decision-making quantitative techniques in the business environment. They will know and apply concepts related to quantitative analysis in general, analysis of methodology for decision-making, project management and the methodology and application of linear programming, with problem solving and practical cases in various areas of management.
SOCIAL RESPONSIBILITY AND ENTERPRISE	MNS5191	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context; know and apply the ethical, economic and legal principles of corporate social responsibility; Develop and apply strategies and instruments that position a company as socially responsible.
PROJECT MANAGEMENT		
STATISTICS AND DECISION ANALYSIS	MNS5011	At the end of the course, the student will solve problems relying on the quantitative tools of probability, statistics, linear programming and econometrics. The emphasis of applying quantitative methods for administration, solving specific problems using excel tools (such as solver and regression) will be highlighted.
FINANCIAL INFORMATION FOR DECISION-MAKING	MNS5021	At the end of the course, the student will analyze and interpret financial statements, in addition to being able to use administrative accounting tools and applicable costs in the solution of real business problems, facilitating the planning, control and decision-making processes of service, commercial and manufacturing companies.
PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will be able to recognize and manage the values, principles and social

		responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
PROJECT MANAGEMENT AND CONTROL	**MNS5031**	At the end of the course, the student will put into practice the aspects of control and direction of a project in the context of their area of specialty and/or work.
PLANNING AND FINANCIAL EVALUATION OF INVESTMENT PROJECTS	**MNS5041**	At the end of the course, the student will identify the necessary phases for the planning and financial evaluation of an investment project. Applying the criteria for calculating the initial net investment and expected flows of investment projects, they will carry out a financial planning of an investment project with real data. Perform the calculation of the rate to discount the flows (both by investment criteria and financing costs). Evaluate flows according to the main financial indicators for the evaluation of investment projects.
PROJECT QUALITY ASSURANCE AND CONTROL	**MNS5051**	At the end of the course, the student will determine the policies, objectives and responsibilities related to quality so that the project meets its objectives.
SELECT TOPICS	**MNS5061**	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to their studies.
LEADERSHIP AND HUMAN RESOURCE PROJECT MANAGEMENT	**MNS5071**	At the end of the course, the student will take charge of the processes to organize and direct the project team in such a way that the objectives of the project are achieved efficiently and effectively, ensuring the creation, collection, distribution, storage, retrieval and objective of the project are met in a timely manner.
PROJECT PROCUREMENT MANAGEMENT	**MNS5081**	At the end of the course, the student will take charge of the processes to purchase or acquire products, services or results necessary outside the project team to perform the work in such a way that the objectives of the project are achieved efficiently and effectively.
STRATEGIC DIRECTION		
STATISTICS AND DECISION ANALYSIS	**MNS5011**	At the end of the course, the student will solve problems of specific business situations, relying on the quantitative tools of probability, statistics, linear programming and econometrics. The emphasis of applying quantitative methods for administration, solving specific problems using excel tools (such as solver and regression) will be highlighted.

FINANCIAL INFORMATION FOR DECISION-MAKING	MNS5021	At the end of the course, the student will perform analysis and interpretation of financial statements of a company, in addition to being able to use administrative accounting tools and applicable costs in the solution of real business problems, facilitating the planning, control and decision-making processes of service, commercial and manufacturing companies.
PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
BUSINESS COMPETITION	MNS5091	At the end of the course, the student will master the fundamentals of Strategic Management; reflect on the reality of the organization and the potential it has to locate itself in new environments; develop an evolutionary awareness towards global environments that allow organizations to transform for their global competitiveness; and apply the main conceptual and methodological tools for the development of the strategy in an organization.
STRATEGIC PLANNING	MNS5101	At the end of the course, the student will diagnose the problems of an organization and formulate a plan to solve them in the short and long term; identify new business opportunities and use the most advanced decision-making tools; and apply and develop the main conceptual, methodological and technological tools for an organization's strategy.
ORGANIZATION AND HUMAN CAPITAL	MNS5111	At the end of the course, the student will design and implement the selection, recruitment and hiring processes to include workers in an organization, their development and training, as well as the fundamentals and techniques necessary for the management of organizational processes in an institution.
SELECT TOPICS	MNS5061	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to their studies.
INNOVATION MANAGEMENT	MNS5121	At the end of the course, the student will understand the complex relationships that exist between the use of technologies and information systems with practices and standards that exist in organizations, recognize the

		potential of information technologies to generate competitive advantages, refine their personal business vision as executives of a company and analyze information problems and assess the alternatives of solution of them.
STRATEGIC DIRECTION	**MNS5131**	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.

MASTER IN EDUCATIONAL INSTITUTION ADMINISTRATION

QUANTITATIVE METHODS FOR DECISION-MAKING	**MNE5011**	At the end of the course, the student will solve problems of specific business situations, relying on the quantitative tools of probability, statistics, linear programming and econometrics. The emphasis of applying quantitative methods for administration, solving specific problems using excel tools (such as solver and regression) will be highlighted.
PROCESS OF CHANGES IN ORGANIZATIONS	**MOR5041**	At the end of the course, the student will manage the tools of organizational development, as well as the interventions proposed and the application of behavioral sciences in organizational processes, particularly those related to change.
PERSONAL HEALTH AND COMMUNITY ECOLOGY	**MOR5141**	At the end of the course, the student will apply the basic principles of personal health and community ecology to both his person and his community. At the end of the course, the student will integrate these basic principles into the curriculum and administration of an educational organization.
ANALYSIS AND FINANCIAL DECISION	**MDF5011**	At the end of the course, the student will understand and apply the main financial accounting concepts in business decision-making. Specifically, emphasis is placed on financial analysis and interpretation, as well as the use and application of the main concepts, administrative strategies and cost control; useful for the

		planning, control and decision-making processes of service, commercial and manufacturing companies.
HUMAN CAPITAL MANAGEMENT	**MNE5131**	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.
PROJECT MANAGEMENT AND CONTROL	**MNE5141**	At the end of the course, the student will plan, schedule and control projects, with an efficient use of resources and time, as well as controlling costs and meeting the specified quality requirements. For this, students will be able to understand and use techniques and tools necessary for project management.
SCHOOL MANAGEMENT ELECTIVES		
NATURE OF THE EDUCATIONAL ORGANIZATION	**MON5011**	At the end of the course, the student will apply the basic principles of the nature of school organizations to the processes of leadership and school administration, as well as to integrate these basic principles, the curriculum program and its supervision.
SCHOOL PROCESS MANAGEMENT	**MON5021**	At the end of the course, the student will design and manage processes to improve the services offered by the educational institution and recognizes the role of leadership to incorporate in this process the educational agents in an environment of cohesion and collaboration.
INFRASTRUCTURE MANAGEMENT AND SOCIAL PARTICIPATION	**MON5031**	At the end of the course, the student will evaluate plans to improve school infrastructure to make appropriate decisions for the institutional and social needs, incorporating the participation of members of the school community. At the end of the course, the student will propose social participation mechanisms that generate synergies with the community where the school institution is and ensures that the school infrastructure plans respect culture and ecology.
STRATEGIC PLANNING IN EDUCATION	**MON5041**	At the end of the course, the student will identify and develop the competencies and skills of high-performance and performance managers in educational institutions. This implies that they understand the approaches, models, methods and techniques of strategic planning in education to create and evaluate plans, study programs and projects.

FINANCING AND FUNDRAISING	MON5051	At the end of the course, the student will create competitive education, research and development projects to access national and international resources that allow the execution of relevant projects; in addition to contributing to the training and improvement of the participants in their knowledge, skills, abilities and attitudes in the design of a strategy for the elaboration, management and obtaining of funds considering the different elements and stages of the projects.
TRENDS IN LATIN AMERICAN EDUCATION LEGISLATION	MON5061	At the end of the course, the student will make decisions in the projects to be developed in their educational work practice, considering the origin, development and trends of educational legislation in Latin America.
COMMUNICATION AND MEDIATION STRATEGIES	MON5071	At the end of the course, the student will apply the methodologies and tools of organizational communication and conflict mediation in realistic situations faced by educational institutions.
ANALYSIS OF EDUCATIONAL MANAGEMENT MODELS	MON5081	At the end of the course, the student will develop a proposal for the construction of an appropriate educational management model for the institution in which he works.
PROFESSIONAL RESPONSIBILITY	REP5021	At the end of the course, the student will broadly recognize and manage values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and inherent regulations of the current system.
ACADEMIC LEADERSHIP ELECTIVES		
NATURE OF THE EDUCATIONAL ORGANIZATION	MON5011	At the end of the course, the student will apply the basic principles of the nature of school organizations to the processes of leadership and school administration, as well as to integrate these basic principles, the curriculum program and its supervision.
EVALUATION AND ACCREDITATION OF EDUCATIONAL INSTITUTIONS	MON5091	At the end of the course, the student will design a complete process of evaluation and institutional accreditation in the training and teaching units of companies and public and private institutions, applying approaches, models, methods and techniques of evaluation, accreditation and certification.
TEACHER PERFORMANCE EVALUATION SYSTEMS	MON5101	At the end of the course, the student will identify different teacher evaluation programs and apply them according to the situations that arise. At the end of the course, the student will design their own teacher

		evaluation system, using direct and indirect evaluation programs.
CURRICULUM DESIGN AND IMPROVEMENT	MON5111	At the end of the course, the student will design or revise a relevant curriculum with a certain educational model.
CONSENSUS AND CONSTRUCTION OF EDUCATIONAL COMMUNITY	MON5121	At the end of the course, the student will design and implement mechanisms or strategies to create consensus that contribute to the formation of an educational community, assessing the impact of different strategies to improve educational quality and organizational climate.
TRENDS IN LATIN AMERICA EDUCATION LEGISLATION	MON5061	At the end of the course, the student will make decisions in the projects to be developed in their educational work practice, considering the origin, development and trends of educational legislation in Latin America.
COMMUNICATION AND MEDIATION STRATEGIES	MON5071	At the end of the course, the student will apply the methodologies and tools of organizational communication and conflict mediation in realistic situations faced by educational institutions.
ACADEMIC LEADERSHIP FOR DIVERSITY EQUALITY	MON5131	At the end of the course, the student will analyze the problems of the national educational system at all levels, proposing alternatives to solve educational problems in general. The student will apply the basic principles of equality and equity in the administration of educational organizations, integrating these basic principles into the processes of efficient and effective educational leadership.
PROFESSIONAL RESPONSIBILITY	REP5021	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.

MASTER IN MANUFACTURING ADMINISTRATION

FINANCIAL MANAGEMENT	MER5901	At the end of the course, the student will perform analysis and interpretation of financial statements of a company, in addition to being able to use financial management tools for business decision-making, both operation, financing and investment.

BUSINESS STATISTICS	MER5911	At the end of the course, the student will have a solid foundation of probability theory and statistical theory and, at the same time, point out the transcendence and importance of both in the solution of real problems; likewise, they will be able to explain the theory and solve real problems concerning univariate time series and to perform its analyses by using statistical programs.
QUALITY ENGINEERING	MAM5011	At the end of the course, the student will apply the statistical techniques of quality control as a tool to obtain uniform quality in production systems. They will also analyze the theoretical concepts of the different control systems and graphs as diagnostic tools, evaluation, intervention and monitoring of productive systems.
MODELING LOGISTICS OPERATIONS	MAM5021	At the end of the course, the student will understand the main mathematical programming models related to the design of distribution networks and the problems associated with distribution routes; create mathematical programming problems related to decision-making processes in network design lines and distribution tables; use specialized software to solve optimization problems related to logistics operations.
PRODUCTION PLANNING AND CONTROL	MAM5031	At the end of the course, the student will use the necessary tools to be able to program production starting from a strategic planning until arriving at the elaboration and control of a master production plan; design and manage an inventory system.
FLEXIBLE MANUFACTURING SYSTEMS	MAM5041	At the end of the course, the student will understand the basic elements of a flexible manufacturing system; use tools necessary to evaluate, plan and control these systems.
SIMULATION OF PRODUCTION SYSTEMS	MAM5051	At the end of the course, the student will analyze a system, create a simulation model and create alternatives that improve its performance. Therefore, the student will be able to make better decisions in the company.
SELECT TOPICS	MAM5061	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to their studies.
PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the

		foundations, mechanics, structure and regulations inherent in the current system.
HUMAN RESOURCES MANAGEMENT	**MER5921**	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.
STRATEGIC MANAGEMENT	**MER5931**	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
MARKETING MANAGEMENT	**MER5942**	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications to meet both the needs of their current target markets and potential new markets.
ADVANCED SELECT TOPICS	**MER5941**	At the end of the course, the student will handle with certainty the topics that are selected to stay updated.
FINAL PROJECT	**MAM5071**	At the end of the course, the student will write an academic paper. This paper may be a case study of a specific work situation in the company where the student works, or in a company with which the university has an agreement. The paper will include solutions using the tools acquired during their studies.
CORPORATE SOCIAL RESPONSIBILITY	**MER5961**	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context. The ethical, economic and social principles of corporate social responsibility will be known and applied. Strategies and instruments will be developed and applied that position a company as socially responsible.

MASTER IN BUSINESS ADMINISTRATION

HUMAN CAPITAL MANAGEMENT	MNE5131	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.
PROJECT MANAGEMENT AND CONTROL	MNE5141	At the end of the course, the student will put into practice the aspects of control and direction of a project in the context of their area of specialty and/or work.
BUSINESS ECONOMICS	MNE5151	At the end of the course, the student will use fundamental economic tools to explain the decision-making phenomena of companies, as well as the influence of their environment, according to the level of behavior of their consumers, competitors, related markets and the aggregate environment of the economy.
CORPORATE MANAGEMENT AND STRATEGY	MNE5161	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
FINAL PROJECT	MNE5171	At the end of the course, the student will write an academic paper. This paper may be a case study of a specific work situation in the company where the student works, or in a company with which the university has an agreement. The paper will include solutions using the tools acquired during their studies.
SOCIAL RESPONSIBILITY IN BUSINESS	MNE5181	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context; know and apply the ethical, economic and legal principles of corporate social responsibility; and develop and apply strategies and instruments that position a socially responsible company.
PROJECT MANAGEMENT ELECTIVES		
FINANCIAL ANALYSIS AND MANAGEMENT	MDF5011	At the end of the course, the student will understand and apply the main financial accounting concepts in business decision-making. Specifically, emphasis is placed on financial analysis and interpretation, as well as the use and application of the main concepts, administrative strategies and cost control; useful for the planning,

		control and decision-making processes of service, commercial and manufacturing companies.
QUANTITATIVE DECISION-MAKING METHODS	MNE5011	At the end of the course, the student will solve problems of specific business situations, relying on the quantitative tools of probability, statistics, linear programming and econometrics. The emphasis of applying quantitative methods for administration, solving specific problems using excel tools (such as solver and regression) will be highlighted.
PROFESSIONAL RESPONSIBILITY	REP5021	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
SELECT TOPICS	MNE5021	At the end of the course, the student will handle with certainty the topics that are selected to stay updated.
PROJECT PLANNING AND EVALUATION MANAGEMENT	MNE5031	At the end of the course, the student will identify the necessary phases for the planning and financial evaluation of an investment project, applying the criteria to calculate the initial net investment and expected flows of investment projects. They were able to carry out a financial planning of an investment project with real data. Perform the calculation of the rate to discount the flows (both by investment criteria and financing costs). Evaluate flows according to the main financial indicators for the evaluation of investment projects.
PROJECT QUALITY MANAGEMENT	MNE5041	At the end of the course, the student will take charge of all the activities of the executing organization that determine the policies, objectives and responsibilities related to quality so that the project meets the needs for which it was undertaken.
GLOBAL PROJECT MANAGEMENT	MNE5051	At the end of the course, the student will competently manage projects with an international or global scope, understanding the various contextual factors that affect the behavior of the multinational project team and generating the necessary processes to achieve an effective and efficient management of the project.
PROJECT FINANCING AND RISK ANALYSIS	MNE5061	At the end of the course, the student will choose between different sources of financing more appropriate to the conditions of the project to be carried out, considering the

		uncertainty and risks that normally surround investment projects, and the way to manage them to improve the decision-making process.
PROJECT INTEGRATION, SCOPE AND TIME MANAGEMENT	**MNE5071**	At the end of the course, the student will implement the planning and programming aspects of a project in the context of their area of specialty and/or work.
INTERNATIONAL STRATEGY ELECTIVES		
FINANCIAL ANALYSIS AND MANAGEMENT	**MDF5011**	At the end of the course, the student will understand and apply the main financial accounting concepts in business decision-making. Specifically, emphasis is placed on financial analysis and interpretation, as well as the use and application of the main concepts, administrative strategies and cost control; useful for the planning, control and decision-making processes of service, commercial and manufacturing companies.
QUANTITATIVE DECISION-MAKING METHODS	**MNE5011**	At the end of the course, the student will solve problems of specific business situations, relying on the quantitative tools of probability, statistics, linear programming and econometrics. The emphasis of applying quantitative methods for administration, solving specific problems using excel tools (such as solver and regression) will be highlighted.
PROFESSIONAL RESPONSIBILITY	**REP5021**	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
SELECT TOPICS	**MNE5021**	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to their studies.
ORGANIZATIONAL ARCHITECTURE OF MULTINATIONAL COMPANIES	**MNE5081**	At the end of the course, the student will be able to enrich their understanding of the problems of the organizational architecture of multinational corporations; know concepts, theoretical principles and relevant design guides of the organizational architecture of companies; and analyze problems of profession and propose informed solutions.
INTERNATIONAL STUDIES	**MNE5091**	At the end of the course, the student will be able to know the international trade treaties; the regulation of exports and imports into Mexico; the main criteria and mechanisms for regulating international trade from the

		Mexican perspective and their main potential effects on the export and import decisions of companies.
INTERNATIONAL FINANCE MANAGEMENT STRATEGIES	**MNE5101**	At the end of the course, the student will be able to apply international finance tools to maximize the value of a company that trades in more than one country. They will apply financial administration to managerial decisions regarding transactions with different exchange rates, to make foreign direct investments, international acquisitions, multinational capital budget calculations and international trade financing decisions.
INTERNATIONAL OPERATIONS STRATEGY	**MNE5111**	At the end of the course, the student will be able to evaluate the main tools of global Strategic Management; identify the difference between business strategy and corporate strategy; identify the difference between global and multinational industries; and know the characteristics of the strategies of successful multinationals.
INTERNATIONAL LEADERSHIP	**MNE5121**	At the end of the course, the student will be able to determine and know in depth the most appropriate leadership styles according to the type of organization and the importance of the leadership function within the company, as part of their main attributions in companies in the international context.

MASTER IN HEALTH SERVICES ADMINISTRATION

FINANCIAL ANALYSIS AND MANAGEMENT	**MFD5011**	At the end of the course, the student will understand and apply the main financial accounting concepts in business decision-making. Specifically, emphasis is placed on financial analysis and interpretation, as well as the use and application of the main concepts, administrative strategies and cost control; useful for the planning, control and decision-making processes of service, commercial and manufacturing companies.
SERVICE MANAGEMENT	**MST5011**	Offer the student the quantitative and qualitative tools for efficient decision-making, in the processes that are generated during the service to the user or consumer, with a comprehensive approach to the tourism and health sector.

PROFESSIONAL RESPONSIBILITY	REP5021	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
HEALTH ECONOMICS	MSA5021	Assess the usefulness of the methodology of health economics in clinical management, allocation of resources for health care and public policy decision-making.
SELECT TOPICS	MSA5031	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to their studies.
MARKETING MANAGEMENT	MSA5041	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications, to meet both the needs of their markets, current goals and potential new markets.
HOSPITAL ADMINISTRATION, PUBLIC SECTOR	MSA5051	Know the basic processes of administration of hospital units from the perspective of public administration.
HOSPITAL ADMINISTRATION, PRIVATE SECTOR	MSA5061	Know the basic processes of administration of private hospital units, such as institutions providing health services.
QUALITY IN HEALTH SERVICE	MSA5071	Develop capacities on the principles of quality methods in patient care and safety to exercise leadership in the development of management systems that meet pre-established quality requirements.
HUMAN CAPITAL MANAGEMENT	MNE5131	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.
PROJECT MANAGEMENT AND CONTROL	MNE5141	At the end of the course, the student will put into practice the aspects of control and direction of a project in the context of their area of specialty and/or work.
BUSINESS ECONOMICS	MNE5151	At the end of the course, the student will use fundamental economic tools to explain the decision-making phenomena of companies, as well as the influence of their environment, according to the level of behavior of their

		consumers, competitors, related markets and the aggregate environment of the economy.
CORPORATE STRATEGIC MANAGEMENT	**MNE5161**	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
FINAL PROJECT	**MSA5101**	At the end of the course, the student will develop a hospital health service management paper. This paper may be a case study of specific work situations of or associated institutions. Real management problems, applying express tools acquired in the program.
SOCIAL RESPONSIBILITY IN BUSINESS	**MNE5181**	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context; know and apply the ethical, economic and legal principles of corporate social responsibility; and develop and apply strategies and instruments that position a socially responsible company.

MASTER IN TOURISM SERVICES ADMINISTRATION

MANAGEMENT OF SMALL AND MEDIUM-SIZED TOURISM ENTERPRISES	**MST5021**	At the end of the course, the student will be able to define small businesses; Value the importance of small businesses in tourism; Identify the unique characteristics of small businesses; Understand the problems of small businesses and identify viable solutions; Make a business plan appropriate to the characteristics of these companies.
PROFITABILITY MANAGEMENT	**MST5031**	Offer students tools for the optimal management of supply, demand, distribution channels, markets and competition, which directly affect the financial performance of companies in the sector.
SALES MANAGEMENT IN TOURISM COMPANIES	**MST5041**	At the end of the course, the student will be able to develop strategic relationships through understanding the marketing process. Locate information and analyze products for proper marketing. Develop an appropriate sales strategy. Prepare and make a sales presentation. Identify and describe the elements necessary to effectively acquire and manage the sales force. Identify

		and describe the methods used to organize, motivate and compensate an effective sales force. Integrate technology for sale. Establish relationships between a company's sales function and the logistics function.
STRATEGIC MARKETING OF TOURISM COMPANIES	**MST5051**	The course on strategic marketing of tourism companies is designed for the student to acquire the fundamental knowledge about the nature, conceptual integration and ways of using marketing in the design and implementation of marketing strategies for organizations and companies operating in the tourism sector.
SELECT TOPICS	**MST5061**	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to their studies.
ELECTRONIC DISTRIBUTION CHANNELS IN TOURISM COMPANIES	**MST5071**	At the end of the course, the student will reflect on the theoretical and practical relevance of electronic distribution channels in the context of tourism; analyze the key elements and technologies of Electronic Business and develop the skills to apply internet technologies to the processes of the company.
FINAL PROJECT	**MST5081**	At the end of the course, the student will write an academic paper. This paper may be a case study of a specific work situation in the company where the student works, or in a company with which the university has an agreement. The paper will include solutions using the tools acquired during their studies
SERVICE MANAGEMENT	**MST5011**	Offer the student the quantitative and qualitative tools for efficient decision-making, in the processes that are generated during the service to the user or consumer, with a comprehensive approach to the tourism and health sector.
FINANCIAL ANALYSIS AND MANAGEMENT	**MFD5011**	At the end of the course, the student will understand and apply the main financial accounting concepts in business decision-making. Specifically, emphasis is placed on financial analysis and interpretation, as well as the use and application of the main concepts, administrative strategies and cost control; useful for the planning, control and decision-making processes of service, commercial and manufacturing companies.

PROFESSIONAL RESPONSIBILITY	**REP5021**	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
HUMAN CAPITAL MANAGEMENT	**MNE5131**	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.
PROJECT MANAGEMENT AND CONTROL	**MNE5141**	At the end of the course, the student will plan, schedule and control projects, with an efficient use of resources and time, as well as controlling costs and meeting the specified quality requirements. For this, students will be able to understand and use techniques and tools necessary for Project Management.
BUSINESS ECONOMICS	**MNE5151**	At the end of the course, the student will use fundamental economic tools to explain the decision-making phenomena of companies, as well as the influence of their environment, according to the level of behavior of their consumers, competitors, related markets and the aggregate environment of the economy.
CORPORATE STRATEGIC MANAGEMENT	**MNE5161**	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
SOCIAL RESPONSIBILITY IN BUSINESS	**MNE5181**	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context; know and apply the ethical, economic and legal principles of corporate social responsibility; and develop and apply strategies and instruments that position a company as socially responsible.

MASTER IN INFORMATION TECHNOLOGY MANAGEMENT

QUANTITATIVE METHODS FOR DECISION-MAKING	MNE5011	At the end of the course, the student will solve problems of specific business situations, relying on the quantitative tools of probability, statistics, linear programming and econometrics. The emphasis of applying quantitative methods for administration, solving specific problems through the use of excel tools (such as solver and regression) will be highlighted.
STRATEGIC INFORMATION TECHNOLOGY MANAGEMENT	MIT5011	At the end of the course, the student will understand the complex relationships that exist between the use of technologies and information systems with Practices and standards that exist in organizations; recognize the potential of information technologies to generate competitive advantages; refine their personal business vision as executives of a company and analyze information problems and assess alternative solutions to them.
PROGRAMMING, DATA AND DECISIONS	MIT5021	The students can apply the basic concepts of database and the main functions of database management systems, database design techniques for the development of database applications and database techniques for decision making.
SYSTEM ANALYSIS, MODELING AND DESIGN	MIT5031	At the end of the course, the student will analyze and plan the information management requirements of the organizations, as well as to design and implement management systems and processing of data and information of the organizations.
INFORMATION TECHNOLOGY INFRASTRUCTURE	MIT5041	At the end of the course, the student will analyze the scope and limitations of different technology alternatives to support business architectures, training for the design and selection of institutional computing infrastructures (servers) and personnel, computer networks in the cloud to meet the needs of an organization. Learn about the data security implications, service levels and trade-offs that involve the cost and productivity considerations of the organization in the field of information and communications technologies (ICT).
BUSINESS MODELS	MIT5051	At the end of the course, the student will generate ideas to create value through the selection and implementation of business systems, to support business strategy with business systems, and to select and coordinate the implementation of a business system.

INFORMATION TECHNOLOGY POLICIES AND STRATEGIES	MIT5061	At the end of the course, the student will design information technology strategies aimed at achieving business objectives, as well as governance structures that support the monitoring and achievement of the strategy both to support strategic operating models and to meet organizational needs of different nature and sizes.
SELECT TOPICS	MIT5071	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to their studies.
PROFESSIONAL RESPONSIBILITY	REP5021	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
E-BUSINESS	MIT5081	At the end of the course, the student will formulate, generate and plan new business models and distribution channels and attention to customers and suppliers based on electronic environments that add value to current organizational capabilities.
KNOWLEDGE-BASED BUSINESS INTELLIGENCE AND BUSINESS DEVELOPMENT	MIT5091	At the end of the course, the student will describe the elements and functions of a business model; to generate ideas to create value through business models based on the use of information technologies.
TECHNOLOGICAL ARCHITECTURE OF THE VALUE SYSTEM	MIT5101	At the end of the course, the student will apply a variety of methods and analysis and models of organizational architectures and to design enterprise architectures to support the value system.
HUMAN CAPITAL MANAGEMENT	MNE5131	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.
PROJECT MANAGEMENT AND CONTROL	MNE5141	At the end of the course, the student will plan, schedule and control projects, with an efficient use of resources and time, as well as controlling costs and meeting the specified quality requirements. For this, students will be able to understand and use techniques and tools necessary for Project Management.
BUSINESS ECONOMICS	MNE5151	At the end of the course, the student will use fundamental economic tools to explain the decision-making phenomena of companies, as well as the influence of their environment, according to the level of

		behavior of their consumers, competitors, related markets and the aggregate environment of the economy.
CORPORATE MANAGEMENT AND STRATEGY	**MNE5161**	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
FINAL PROJECT	**MIT5111**	At the end of the course, the student will write an academic paper. This paper may be a case study of a specific work situation in the company where the student works, or in a company with which the university has an agreement. The paper will include solutions using the tools acquired during their studies.
SOCIAL RESPONSIBILITY IN BUSINESS	**MNE5181**	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context; know and apply the ethical, economic and legal principles of corporate social responsibility; and develop and apply strategies and instruments that position a socially responsible company.

MASTER IN SUSTAINABLE TECHNOLOGY MANAGEMENT

FACTORS OF ENVIRONMENTAL CHANGE	**MSU5011**	At the end of the course, the student will identify interdisciplinary scientific principles related to environmental change that are important for policy formulation and for the evaluation of the effects of this change.
ECOLOGY AND CLIMATE CHANGE	**MSU5021**	At the end of the course, the student will acquire the basic knowledge of the process of interaction of organisms with their environment, will be able to identify the effects of factors of global change in terrestrial biomes with emphasis on those found in Mexico.
PROFESSIONAL RESPONSIBILITY	**REP5011**	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct

		performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
SOLAR THERMAL TECHNOLOGY	**MSU5031**	At the end of the course, the student will identify the fundamentals of construction and design of solar thermal systems; develop skills to design and build solar thermal generation systems, obtain tools to design and build low-cost solar thermal generation systems, viable in developing countries.
PHOTOVOLTAIC SOLAR TECHNOLOGY	**MSU5041**	At the end of the course, the student will identify the fundamentals of construction and design of photovoltaic systems; develop skills to design and build photovoltaic power generation systems; it will obtain tools to design and build photovoltaic power generation systems, viable in developing countries.
BIOFUEL TECHNOLOGIES	**MSU5051**	At the end of the course, the student will identify the fundamentals of construction and design of biofuel generation systems; develop skills to carry out its design and construction; it will obtain tools to design and build biofuel generation systems, viable in developing countries.
THERMAL COMFORT AND ENERGY EFFICIENCY	**MDE5021**	At the end of the course, the student will be able to evaluate aspects of the thermal performance and energy efficiency of buildings and knows them, in addition, the standards, rules and design recommendations allow to evaluate the thermal performance of buildings and their components, to improve their energy efficiency.
SELECT TOPICS	**MSU5061**	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to their studies.
LEGAL FRAMEWORK FOR ENERGY GENERATION	**MSU5071**	At the end of the course, the student will achieve a normative training and an interest to be updated permanently, in relation to the legal provisions that affect the development of energy through the use of alternative sources.
HUMAN RESOURCES MANAGEMENT	**MER5921**	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.

FINANCIAL MANAGEMENT	**MER5901**	At the end of the course, the student will perform analysis and interpretation of financial statements of a company, in addition to being able to use Financial Management tools for business decision-making, both operation, financing and investment.
ANALYSIS AND IMPROVEMENT OF PROCESSES	**MSU5181**	At the end of the course, the student will know, understand and apply the principles of statistics to solve practical problems of Process analysis in Sustainable Engineering.
ADVANCED SELECT TOPICS	**MSU5191**	At the end of the course, the student will be able to manage the knowledge acquired in their studies to develop the applications related to them.
FINAL PROJECT	**MSU5201**	At the end of the course, the student will have the ability to apply the knowledge throughout the courses of the program to propose a solution to a problem in their work environment. At the end, the student will have elaborated and presented his formal proposal of thesis of degree, with a theoretical framework and a conceptual analysis of the subject that realizes like thesis.
MARKETING MANAGEMENT	**MER5941**	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications to meet both the needs of their current target markets and potential new markets.

MASTER IN ARCHITECTURE

ADAPTIVE DESIGN PROCESSES	**MDE5011**	At the end of the subject, the student will understand the symbiotic relationship between the environment, city and architecture and as in this correspondence there are multiple energy exchanges that affect the levels of comfort and therefore the well-being of the occupant.
SUSTAINABILITY AND HABITABILITY	**MDE5031**	At the end of the course, the student will be able to reflect on complex environmental and socio-cultural conditions of the past and present, to make creative and speculative projections of a sustainable future through special proposals and occupational mechanisms with the potential to transform and improve the quality of life and environmental comfort.

ACOUSTIC AND LIGHT COMFORT	MDE5041	At the end of the course, the student will be able to apply the most important national and international design standards and recommendations, which affect the evaluation and certification of the built environments, in their acoustic and light aspects.
DESIGNS IN EMERGING CONTEXTS	MDE5051	At the end of the subject, the student will understand the impact of social, political, economic, constructive, technological and aesthetic factors in the different scales and environments of the built environment in emerging countries and economies in transition, and exercise professional practices in a multidisciplinary environment to produce sustainable and equitable urban-architectural solutions appropriate to local conditions.
SELECT TOPICS	MDE5061	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to architecture.
CONSTRUCTION EVALUATION AND CERTIFICATION	MDE5071	At the end of the course, the student will apply the different methodologies of environmental impact assessment used in buildings for certification as environmental constructions or green buildings.
BIOCLIMATIC DESIGN IN ARCHITECTURE	MDE5081	At the end of the course, the student will apply the theoretical bases of bioclimatic design, as well as the consequent energy efficiency that can be achieved in the design, construction, operation and disposal or reuse of a building or built environment.
HUMAN FACTORS IN ARCHITECTURE	MDE5091	At the end of the course, the student will be able to critically analyze and evaluate the psycho-environmental and socio-cultural conditions of different built environments and other environmental artifacts, to generate strategies to improve the material and immaterial quality of daily life and habitability.
FINAL PROJECT	MDE5101	At the end of the course, the student will develop and direct a project that integrates the knowledge acquired in the subjects of the master's degree.
ADVANCED SELECT TOPICS	MDE5111	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to architecture.
THERMAL COMFORT AND ENERGY EFFICIENCY	MDE5021	At the end of the course, the student will be able to evaluate aspects of the thermal performance and energy efficiency of buildings and knows them, in addition, the standards, rules and design recommendations allow to evaluate the thermal performance of buildings and their components, to improve their energy efficiency.

INNOVATION AND DESIGN	**MDE5031**	At the end of the subject, the student will understand how the creative or design act benefits from the understanding of the concept of innovation to satisfy new demands by a society in constant change, considering the repercussions and pressures that can be exerted on the environment, the social part and economic factors (social responsibility).
PROFESSIONAL RESPONSIBILITY	**REP5011**	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
STRATEGIC MANAGEMENT	**MER5931**	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
MARKETING MANAGEMENT	**MER5941**	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications to meet both the needs of their current target markets and potential new markets.

MASTER IN CLOUD COMPUTING

CLOUD COMPUTING AND NETWORKING	**MCN5011**	The student will know the basic concepts of cloud computing, infrastructure, services and applications related to computer networks and information security. The student will be able to manage and develop the architectures of telecommunications systems for cloud computing support. The student will know how to use the standards and environments of computing in the cloud and analyze the scope and limitations of different alternatives of cloud computing technology to support architectures.

CLOUD APPLICATION DEVELOPMENT	MCN5021	The student will be able to identify the application deployment part in the overall architecture of a cloud system. In addition, you will be able to design and deploy an application to a cloud system.
SECURITY AND NETWORK CONFIGURATION	MCN5031	The student will acquire the necessary knowledge to configure, manage and solve problems related to network and security devices, as well as the protocols and tools necessary to maintain a secure and fully functional network. In addition, you must have the ability to manage and evaluate heterogeneous networks for cloud computing applications.
CRYPTOGRAPHY AND NETWORK SECURITY	MCN5041	The student will acquire skills to design security algorithms in a communications network and to analyze the techniques of symmetric and asymmetric encryption, as well as the different security protocols, types of attacks, intrusion detection and prevention systems and firewalls.
CONVERGENT NETWORKS	MCN5051	The student will acquire the ability to make converged network designs, including signaling protocols, VoIP and WAN network technologies, with the aim of ensuring the quality of service and availability of a communications network.
CLOUD RESOURCE MANAGEMENT	MCN5061	The student will acquire the skills to evaluate and compare virtualization and para-virtualization solutions, understand the conception and configuration of virtual machines to access and give access to cloud resources, analyze hypervisor systems for the observation and delivery of consumption of laaS resources, design overbooking techniques, for access to PaaS resources.
DATA MANAGEMENT IN THE CLOUD	MCN5071	The student will acquire the skills to design cloud data storage techniques (cloud database construction), duplication and statistics management techniques and storage space usage, design elastic DBMS architectures, cloud-adapted query techniques for ubiquitous data access (MapReduce and noSQL Databases , notions of relaxed consistency), integrate economic cost models associated with data management, choose a platform suitable for the specific requirements of each distributed application.
SELECT TOPICS	MCN5081	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in topics related to cloud computing.

ADVANCED SELECT TOPICS	MCN5091	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in topics related to cloud computing.
FINAL PROJECT	MCN5101	At the end of the course, the student will develop and direct a project that integrates the knowledge acquired in the subjects of the master's degree.
LEGAL ASPECTS OF THE CLOUD	MCN5111	The student will know and apply the legal concepts applicable to the cloud, especially within the framework of respect for the rights of third parties and the protection of national and international laws that grant intellectual property and possible conduct that may constitute crimes and the mechanics of their prosecution, considering the obligations from which this arises and expressly respect the contractual terms that must be respected to avoid any liability.
PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
HUMAN RESOURCES MANAGEMENT	MER5921	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.
STRATEGIC MANAGEMENT	MER5931	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; using tools to analyze the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
MARKETING MANAGEMENT	MER5941	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications to meet both the needs of their current target markets and potential new markets.

MASTER IN COMMUNICATION AND DIGITAL MEDIA

COMMUNICATION AND CULTURAL PROCESSES	**MCM5011**	At the end of the course, the student will identify, understand, analyze and, where appropriate, apply the main approaches from which the processes of communication, the media and their relationship and intervention in the processes and cultural practices of individuals and societies have been studied as a basis for the identification of areas of opportunity , the design and implementation of communication strategies through digital media.
COMMUNICATION STRATEGIES IN MULTIMEDIA PUBLICATIONS	**MCM5021**	The student will have an overview of the rapid evolution of the publishing industry in recent times and its foray into digital media. You will know the different types of digital resources (videos, audios, graphics or animations) and their standards to be able to implement them in online editorial projects (CD-ROM or desktop applications) or desktop (blogs, microblogs, e-books or e-zines) and choose the right ones to the circumstances and audience of the project. You will be aware of the importance and impact of an electronic multimedia publication for the publishing industry with the rise of the internet and mobile devices. But you will also be able to develop desktop multimedia publications such as presentations or interactive CD-Rom's. You'll be aware of publicly accessible tools and sites that can make it easier to publish and distribute multimedia content. It will have sufficient knowledge to assist in the transition to the digital print media arena and the publishing industry that still uses traditional publishing techniques.
DIGITAL MEDIA LANGUAGE	**MCM5031**	Analyze in depth the digital ontology, and what are the points that must be made about the concept. Take a tour of the history of the media and the changes that digitalization has caused in its operation, content and form. Identify what are the essential characteristics and principles of the language used in contemporary digital media. Develop the skills necessary for the understanding and application of the language used in contemporary digital media. Develop the skills necessary for the understanding and application of language in digital media to integral projects.

WEB COMMUNICATION STRATEGIES	**MCM5041**	The student will be able to create strategies that help organizations and companies communicate their messages, whether in the commercial, governmental or social field. You will know the main standards of content production for the Web, their languages and implementation for the development of pages, applications or simply distribute or share Web Parts. It will be able to structure and manage an internet page and its contents through the management of CMS's and position in internet search engines. You will have the cognitive bases to be able to develop an advertising campaign on the web, which uses the appropriate resources to issue messages in an efficient and effective way. Being the social networks the field of greater growth in the web, the student will know how to use its virtues and advantages to turn them into a communication tool of high impact and effectiveness in favor of the project that is developing.
SELECT TOPICS	**MCM5051**	In the subject is fundamentally will be analyzed in depth the selected topics (defined each year) to keep updated the student, in the topics related to the various aspects that make up, the field of study of communication and digital media.
DIGITAL MEDIA MANAGEMENT AND DEVELOPMENT	**MCM5061**	The student will be able to choose online tracking tools and applications to collect and analyze data, as well as analyze and interpret them. You will have the knowledge to make strategic decisions in the use of digital channels to promote products, services or messages effectively and efficiently. Develop skills focused on the management and online development of a brand.
TRANSMEDIA CONTENT	**MCM5071**	Clearly identify the key concepts to which the transmedia phenomenon refers. Perform a detailed analysis of the functioning of the entertainment industry to identify the areas of irruption of the transmedia. Analyze what are the essential principles of transmedia storytelling, as well as the design of its contents. Develop analytical and narrative skills to develop transmedia content with the potential to join the cultural and entertainment industry.

COMMUNICATION STRATEGIES ON MOBILE DEVICES	MCM5081	At the end of the course, the student will identify, and where appropriate, justify the importance of the use of mobile technology for communication, as well as to design, develop and implement communication strategies that use these technologies to solve the needs of a public, private or community organization.
STORYTELLING IN DIGITAL MEDIA	MCM5091	Identify the main concepts about storytelling, as well as their historical and theoretical development to find the place such a strategy has in contemporary media. Analyze what the digital paradigm consists of and its implications in the narrative of digital media. Identify the narrative strategies present in digital media, as well as the new possibilities that the digital paradigm incorporates into media practices.
FINAL PROJECT	MCM5101	At the end of the course the student will develop and direct a project that integrates the knowledge acquired in the subjects of the master's degree.
ADVANCED SELECT TOPICS	MCM5111	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to the direction of communication projects in digital media.
INTERFACE USABILITY FOR EDITORIAL CONTENT	MPD5021	At the end of the course, the student will apply their theoretical, practical and methodological knowledge for the resolution of usability problems related to the analog and digital interactivity of editorial products. In the same way, it develops the capacity to exploit interactive and multimedia resources for the development of efficient and operational interactive interfaces for editorial pieces of any kind.
PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
COMPOSITION AND PHOTO EDITING	MPD5041	At the end of the course, the student will master the basic principles of photography related to the elaboration and design of editorial products, which respond to the demands of the current market. Likewise, he understands the importance of photography in editorial production, from the perspective of the editor, photographer or photojournalist.

MARKETING MANAGEMENT	MER5941	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications to meet both the needs of their current target markets and potential new markets.

MASTER IN BUSINESS LAW

ADVANCED SELECT TOPICS	MEM5251	At the end of the course, the student will apply the existing regulations in the new online trials in administrative and fiscal matters and will be able to efficiently complement their stages to achieve the procedural integration of the company in the defense
TRADE ARBITRATION	MEM5261	At the end of the course, the student will be able to conclude in an assertive way the effective processing of the various stages of the arbitral procedure within the framework of the culture of legality and promoting the culture of peace, using alternative means to the jurisdictional ones, which allow to resolve the disputes, maintaining the personal and commercial relations of those involved.
LEGAL ARGUMENTATION	MEM5271	At the end of the course, the student will acquire the ability to analyze, compare, build and present solutions to situations and legal conflicts, based on the critical and axiological reasoning of the problem to obtain, through the solid elements to protect the legal assets that it defends.
NEGOTIATION AND CONFLICT RESOLUTION	MEM5281	At the end of the course, the student will know the essential and permanent processes aimed at the development of a healthy organization with integral balance, based on the principle of peaceful resolution of disputes that may arise from the culture of peace, avoiding confrontations and supporting the generation of complementarity of administration of justice , in addition to being able to successfully negotiate problem situations with an alternative approach of conflict assessment, persuasion and Effective Communication based on negotiating self-knowledge of personal strengths and weaknesses in pursuit of concrete actions for improvement.

FINAL PROJECT	MEM5291	At the end of the course, the student will apply in a joint and interdisciplinary way the knowledge and skills acquired during the development of the two stages for the fulfillment of the general and objectives of the master's degree and will be able to analyze, plan, direct and complement a project to improve the scope of performance of their professional functions with the highest specialization in the legal field in a practical and effective way
COMMUNICATION IN THE COMPANY	MEM5301	At the end of the course, you will fully understand the processes, factors and actors involved to achieve an effective transmission of information to achieve maximum understanding and positive interaction among all members of the organization and this optimize individual and group results.
INTERNATIONAL BUSINESS LAW ELECTIVES		
GOODS AND SERVICES INTERNATIONAL TRADE REGULATION	MEM5011	At the end of the course, the student will be able to carry out and develop in a complete way the operations of purchase sale of goods and services with a global vision of the context and the implications of all the factors and actors involved in the process, having the necessary elements for the development of the company in international operations.
CUSTOMS AND FOREIGN TRADE LAW	MEM5021	At the end of the course, the student will be able to carry out the customs procedures and preventions according to the current legislation, analyze and apply the customs law and its correlatives and develop business activities based on the Mexican foreign policy in commercial matters.
GLOBAL POLITICAL ECONOMY	MEM5031	At the end of the course, the student will be able to propose innovative solutions to the problems presented by global development, knowing the causes and consequences of the development of the structure of the international economy and its interaction with national economies, with a social commitment and availability with the less favored sectors.
INTERNATIONAL ORGANIZATIONS AND GOVERNANCE	MEM5041	At the end of the course, the student will manage the management for human development through the knowledge of the institutions and the effective normativity, understanding governance as a democratic basis for any decision-making process with mechanisms of responsibility on the part of society in the promotion of the global rule of law.

DISPUTES SETTLEMENT IN THE INTERNATIONAL COMMERCIAL FIELD	MEM5051	At the end of the course, the student will be able to conduct in an assertive way the negotiation and resolution of the conflicts inside or outside the organization, being able in this way to recombine the structure and the resources to avoid the judicialization of the matters and give them the follow-up they deserve.
INTERNATIONAL COMMERCIAL CONTRACTS	MEM5061	At the end of the course, the student will be able to analyze the scope and legal and economic consequences of the different types of contracts that are concluded in the international field between the different subjects, whether these natural or legal persons.
INTERNATIONAL TRADE TREATIES	MEM5071	At the end of the course, the student will deftly handle the content of the international instruments in commercial matters signed by Mexico, making a logical transformation into tools of daily work to these normative creations, their implications and impacts in the international transactional world.
AGREEMENTS ON TRADE DEFENSE MEASURES	MEM5081	At the end of the course, the student will be able to resolve the legal issues that involve the company individually or as it associates with its international limits in cases of application of state measures to defend national markets, both as an interested party and in the role of sanctioned and apply the legal strategies that lead to the best development of the organization in which it works.
PROFESSIONAL RESPONSIBILITY	REP5021	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
FISCAL STRATEGY ELECTIVES		
TAX THEORY	MEM5091	At the end of the course, the student will broadly recognize and manage the foundations, mechanics, structure and regulations inherent in the current constitutional and fiscal system.
PEOPLE AND TAXES	MEM5101	At the end of the course, you can carry out operations and registrations in the various taxes that occupy the natural persons, identifying the tax obligations that correspond to you according to the case and plan the correct strategies so that the individual entrepreneur can keep up to date his declarations and the payment of the concepts involved and, in this way, improve the

		economic and legal efficiency of the performance of the activities inherent to the natural persons.
TAXES AND CONSUMPTION	**MEM5111**	At the end of the course, the student will be able to carry out all the operations and processes related to the taxes that tax the consumption of goods and services and analyze and control the impacts of these levies have on the activity of the obligated subjects and design the correct fiscal strategies for their settlement and payment.
COMPANIES AND TAXES	**MEM5121**	At the end of the course, the student will be able to analyze and compare the various regimes in which the legal entities legally admitted by Mexican legislation operate and the differences in the taxation of each of them to , in this way, raise the work schemes in tax matters adapted to the purposes and functions of each of them.
FISCAL MANAGEMENT AND STRATEGY	**MEM5131**	At the end of the course, the student will be able to analyze the different taxes that make up the tax burden of the individual or collective taxpayer to create a strategy that allows him to reduce, eliminate or defer the tax burden of the taxpayer, always adhering to what is allowed by law, having the documentary support that demonstrates its legality, seeking the least risk.
TAX PROCEDURES	**MEM5141**	At the end of the course, the student will be able to plan, litigate and challenge all the resolutions or administrative or jurisdictional processes that our legislation provides in defense of justice, respecting procedural loyalty, good faith and, above all, within the framework of efficiency without losing sight of the axiological elements of the Profession.
TAX AMPARO	**MEM5151**	At the end of the course, the student will be able to analyze in an integral way and make all the presentations corresponding to the amparo procedure to appeal the resolutions that violate the rights of the taxpayers, in this way achieve a complete respect of the culture of legality.
TAXATION AND INTERNATIONAL TREATIES	**MEM5161**	At the end of the course, the student will recognize the different treaties and agreements concluded by Mexico aimed at avoiding multiple taxation, with a detailed analysis of the different taxable income derived from interest, royalties and dividends.
PROFESSIONAL RESPONSIBILITY	**REP5021**	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in

		dignity, freedom and respect for the activities they perform.
LEGAL BUSINESS MANAGEMENT ELECTIVES		
COMPANY LAW	**MEM5171**	At the end of the course, you will know in a practical and in-depth way the subject and its specifications related to the existence of typology, genesis, development and management, reorganization and new figures in the corporate legal field.
NEW TRENDS IN BUSINESS CONTRACTING	**MEM5181**	At the end of the course, you will be able to develop, draft and negotiate the new contractual models in the legal framework of electronic commerce based on national and international legislation and the uses and customs and conventional regulation of the agencies involved.
INTELLECTUAL AND INDUSTRIAL PROPERTY	**MEM5191**	At the end of the course, the student will differentiate in a concrete way the contents of the intellectual property and industry, being able to carry out the procedures inherent to the registration of both and the contracts that arise from them.
STRATEGIES AND BUSINESS LEGAL PLANNING	**MEM5201**	At the end of the course, the student will be able to generate specific proposals, based on a strategic and planned reasoning to advise business on hiring, permanence and promotion of personnel, avoiding individual and collective conflicts that impact on the productive and legal structure of the company, as well as propose special benefit regimes aimed at improving the work environment in the current regulatory framework.
CORPORATE CRIMINAL LAW	**MEM5211**	At the end of the course, the student will be able to analyze and prevent individual or collective behaviors that can be considered as responsibilities that affect the normal business performance, the individual responsibilities of the partners and directors, and carry out a legal strategy to minimize the effects of an investigation or criminal process either in the role of defendants or victims.
BUSINESS AND THE PUBLIC SECTOR	**MEM5221**	At the end of the course, the student will be able to develop in a complete and effective way the relations between the public and private sectors in their different fields of application, with special emphasis on those administrative and jurisdictional procedures that correspond to the governmental activity in which it behaves as a person of private law and, where

		appropriate, defend the interests of the company in the violations of these systems before the corresponding authorities.
PROCEDURAL LAW AND BUSINESS ACTIVITY	**MEM5231**	At the end of the course, the student will be able to process and obtain effective resolutions in the jurisdictional field of the procedures with the greatest impact on business activity in commercial, corporate and criminal matters in the light of the recent constitutional and legal reforms, which impacted on the Mexican legal scaffolding, developing in a concrete way the new litigation skill that these systems require.
TAX LAW AND THE COMPANY	**MEM5241**	At the end of the course, the student will analyze in a complete and interdependent way the different tax obligations of the company, its exemptions and other charges to be able to plan the optimization of resources of the company promoting the culture of tax legality.
PROFESSIONAL RESPONSIBILITY	**REP5021**	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.

MASTER IN TAX LAW

TAXATION THEORY	**MDS5011**	At the end of the course, the student will broadly recognize and manage the foundations, mechanics, structure and regulations inherent in the current constitutional system.
PERSONAL TAXES	**MDS5021**	At the end of the course, you will be able to carry out the operations and registrations in the various taxes for people, identifying the tax obligations that correspond to them according to the case and plan the correct strategies so that the individual entrepreneur can keep up to date his declarations and the payment of the concepts involved and, in this way, improve the economic and legal efficiency of the performance of the activities inherent to the natural persons.
CONSUMPTION TAX	**MDS5031**	At the end of the course, the student will be able to carry out all the operations and processes related to the taxes that tax the consumption of goods and services and analyze and control the impacts of these levies have on the activity

		of the obligated subjects and design the correct fiscal strategies for their settlement and payment.
CORPORATE TAXES	MDS5041	At the end of the course, the student will be able to analyze and compare the various regimes in which the legal entities legally admitted by Mexican legislation operate and the differences in the taxation of each of them to, in this way, raise the work schemes in tax matters adapted to the purposes and functions of each of them.
TAX PLANNING AND CONSULTING	MDS5051	At the end of the course, the student will be able to analyze the different taxes that make up the tax burden of the individual or collective taxpayer to create a strategy that allows him to reduce, eliminate or defer the tax burden of the taxpayer, always adhering to what is allowed by law, having the documentary support that demonstrates its legality, seeking the least risk.
TAX INVESTIGATION AND VERIFICATION	MDS5061	At the end of the course, the student will be able to plan, litigate and challenge all the resolutions or administrative or jurisdictional processes that our legislation provides in defense of justice, respecting procedural loyalty, good faith and, above all, within the framework of efficiency without losing sight of the axiological elements of the Profession.
AMPARO IN TAX MATTERS	MDS5071	At the end of the course, the student will be able to analyze in an integral way and make all the presentations corresponding to the amparo procedure to appeal the resolutions that violate the rights of taxpayers, in this way achieving a complete respect of the culture of legality.
INTERNATIONAL TREATIES ON TAX MATTERS	MDS5081	At the end of the course, the student will know the different treaties and agreements concluded by Mexico aimed at avoiding multiple taxation, with a detailed analysis of the different taxable income derived from interest, royalties and dividends.
FINAL PROJECT	MDS5101	At the end of the course, the student will apply in a joint and interdisciplinary way the knowledge and skills acquired during the development of the two stages for the fulfillment of the general and objectives of the master's degree and will be able to analyze, plan, direct and complete a project to improve the scope of performance of their professional functions with the highest specialization in the legal field in a practical and effective way.
ADVANCED SELECT TOPICS	MER5951	At the end of the course, the student will apply the existing regulations in the new online trials in administrative and fiscal matters and will be able to efficiently complement their stages to achieve the procedural integration of the company in the defense of their rights and interests.

FINANCIAL MANAGEMENT	**MER5901**	At the end of the course, the student will perform analysis and interpretation of financial statements of a company, in addition to being able to use Financial Management tools for business decision-making, both operation, financing and investment.
LEGAL ARGUMENTATION	**MDS5091**	At the end of the course, the student will acquire the ability to analyze, compare, build and present solutions to situations and legal conflicts, based on the critical and axiological reasoning of the problem to obtain, through the solid elements to protect the legal assets that it defends.
STRATEGIC MANAGEMENT	**MER5931**	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
PROFESSIONAL RESPONSIBILITY	**REP5011**	At the end of the course, the student will broadly recognize and manage values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and inherent regulations of the current system.
SOCIAL AND CORPORATE RESPONSIBILITY	**MER5961**	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context; knows and applies the ethical, economic and legal principles of corporate social responsibility; Develop and apply strategies and instruments that position a company as socially responsible.

MASTER IN PRIVATE LAW

INTRODUCTION TO CONFLICT THEORY	**MPR5011**	At the end of the course, the student will be able to identify the distinctive aspects that contribute to the genesis of a conflict and incorporate them into a process in which it is assumed for the application of sufficient resources to transform it into a satisfactory solution for the interested parties.
FORMS OF C DISPUTE OMPOSITION	**MPR5021**	At the end of the course, the student will be able to identify the elements of the litigation and discriminate, through the study of the legal documents, which are the different forms of its composition, as well as the fields of

		application for the achievement of a harmonious coexistence with the jurisdictional system and the culture of peace.
NEW TECHNOLOGIES AND DISPUTE RESOLUTION	**MPR5031**	At the end of the course, the student will be able to frame the nascent field of online dispute resolution within the general framework of alternative dispute resolution methods and their structural criteria, based on the prevailing regulations.
ARBITRATION WORKSHOP	**MPR5041**	At the end of the course, the student will handle the techniques of proof and presentation of cases in the different arbitration systems in a concrete and effective way for the defense of the interests that it represents.
MEDIATION AND ITS FIELDS OF APPLICATION	**MPR5051**	At the end of the course, the student will comprehensively manage the Mexican legal structure related to mediation as the parts of the alternative mechanisms for the resolution of disputes in the private legal sphere, with its limits of public order and the processes of this in the different general and specific phases by matter of application.
TECHNIQUES FOR HANDLING COLLECTIVE DISPUTES	**MPR5061**	At the end of the course, the student will be able to intervene effectively in the negotiation and execution of various types of collective labor or social disputes and raise, agree and execute the instruments that reflect them.
CONCILIATION	**MPR5071**	At the end of the course, the student will be able to apply the mediation techniques for each situation and thus effectivize the signing of agreements between the parties for the specific solution of the case.
MEDIATION AND CONCILIATION WORKSHOP	**MPR5081**	At the end of the course, the student will be able to apply the techniques of mediation and conciliation for each situation in an effective way and with it to effectivize the signing of agreements between the parties for the concrete solution of the case.
PROFESSIONAL RESPONSIBILITY	**REP5011**	At the end of the course, the student will broadly recognize and manage values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and inherent regulations of the current system.
ADVANCED SELECT TOPICS	**MPR5171**	At the end of the course, the student will be able to manage the knowledge acquired in their studies to develop the applications related to them.

COMMERCIAL ARBITRATION	**MPR5181**	At the end of the course, the student may conduct, in an assertive manner, the effective processing of the various stages of arbitration proceedings within the framework of the culture of legality and promoting the culture of peace using alternative means to the jurisdictional ones themselves that allow to resolve the disputes while maintaining the personal and commercial relations of those involved.
LEGAL ARGUMENTATION	**MDS5091**	At the end of the course, the student will acquire the ability to analyze, compare, build and present solutions to situations and legal conflicts, based on the critical and axiological reasoning of the problem to obtain, through the solid elements to protect the legal assets that they defends.
NEGOTIATION AND CONFLICT RESOLUTION	**MPR5191**	At the end of the course, the student will know the essential and permanent processes aimed at the development of a healthy organization with integral balance, based on the principle of peaceful resolution of disputes that may arise from the culture of peace, avoiding confrontations and supporting the creation of complementarity of administration of justice, in addition to being able to successfully negotiate problem situations with an alternative approach of conflict assessment, persuasion and Effective Communication based on negotiating self-knowledge of personal strengths and weaknesses in pursuit of concrete actions for improvement.
FINAL PROJECT	**MPR5201**	At the end of the course, the student will have the ability to apply the knowledge acquired during their studies to propose a solution to a problem in their work environment. At the end, the student will have elaborated and presented his formal thesis proposal, with a theoretical framework and a conceptual analysis of the subject.
COMMUNICATION STRATEGIES	**MPR5211**	At the end of the course, you will fully understand the processes, factors and actors involved to achieve an effective transmission of information to achieve maximum understanding and positive interaction among all members of the organization in which you participate and thus optimize individual and group results.

MASTER IN INFORMATION DESIGN

EDITORIAL DESIGN AS VISUAL JOURNALISM	MPD5011	At the end of the course, the student will understand the existing market opportunities around the creation of editorial products, know what the design of an editorial engineering consists of up to the necessary interaction with consumers and the importance of describing editorial design as visual journalism and not only as a process of diagramming.
TYPOGRAPHIC STRATEGY AND SELECTION	MPD5051	At the end of the course, the student will make decisions that achieve maximum efficiency in the use of typography for printed and electronic editorial projects.
EDITORIAL PLANNING AND ENGINEERING	MPD5061	At the end of the course, the student will analyze the detailed construction of editorial pieces, from the design of the editorial engineering, its application, layout and the reasons that force to redesign editorial products, recognizing the importance of the writing of the creative briefing.
SELECT TOPICS	MPD5071	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to information design.
CREATIVE INFOGRAPHIC DESIGN	MPD5081	At the end of the course, the student will carry out a systemic investigation on a certain fact, event, phenomenon or process to generate an infographic, developing their creative skills of synthesis and visual representation (analog or digital) of both concrete and abstract concepts.
ADVANCED SELECT TOPICS	MPD5091	At the end of the course, the student will handle with certainty the topics that are selected to stay updated in the topics related to information design.
SOCIAL MEDIA MARKETING	MPD5101	At the end of the course, the student will understand social media marketing. They will apply communication strategies, promotion and interaction using social networks and other interactive means of the Internet. Understand Social Media Marketing as a tool for corporate positioning or goods and services.
FINAL PROJECT	MPD5111	At the end of the course, the student will develop and direct a project that integrates the knowledge acquired in the subjects of the master's degree.
SALES STRATEGY OF DESIGN PROJECTS	MPD5121	At the end of the course, the student will direct and manage information design projects useful to society and organizations, demonstrating negotiation skills for the commercialization of multidisciplinary creative projects.
INTERFACE USABILITY FOR	MPD5021	At the end of the course, the student will apply their theoretical, practical and methodological knowledge for the resolution of usability problems related to the analog and

EDITORIAL CONTENT		digital interactivity of editorial products. In the same way, they will develop the capacity to use interactive and multimedia resources for the development of efficient and operational interactive interfaces for editorial pieces.
INNOVATION AND DESIGN	**MPD5031**	At the end of the subject, the student will understand how the creative or design act benefits from the understanding of the concept of innovation to satisfy new demands by a society in constant change, considering the repercussions and pressures that can be exerted on the environment, the social part and economic factors (social responsibility).
COMPOSITION AND PHOTO EDITING	**MPD5041**	At the end of the course, the student will master the basic principles of photography related to the elaboration and design of editorial products, which respond to the demands of the current market. Likewise, they will understand the importance of photography in editorial production, from the perspective of the editor, photographer or photojournalist.
PROFESSIONAL RESPONSIBILITY	**REP5011**	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
STRATEGIC MANAGEMENT	**MER5931**	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
MARKETING MANAGEMENT	**MER5941**	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications to meet both the needs of their current target markets and potential new markets.

MASTER IN TEACHING

PSYCHO-PEDAGOGICAL DIAGNOSIS	**MOC5131**	At the end of the course, the student will make diagnoses of the needs of the students of basic education to intervene or channel them, in such a way that their integral development is favored.

INCLUSIVE EDUCATION AND DIVERSITY IN THE CLASSROOM	MOC5141	At the end of the course, the student will propose models to achieve inclusive educational processes and respect for diversity that contribute to cooperative coexistence and raise the quality of learning; Respect and value the diversity of cultures, customs and ideas within the context of the classroom.
CONFLICT MANAGEMENT IN THE SCHOOL ENVIRONMENT	MOC5151	At the end of the course, the student will make decisions regarding conflicts that arise in the school environment, as well as guide students, parents and teachers, generating the conditions that allow them to handle conflicts in a self-managed way.
FINAL PROJECT	MOC5161	At the end of the course, the student will develop a complete project in teaching in an educational institution that includes diagnostic evaluation, solution proposal, theoretical framework, application in the field, data collection and analysis and conclusions.
PHENOMENOLOGY APPLIED IN THE CLASSROOM	MOC5171	At the end of the course, the student will use a methodology from the phenomenological perspective to analyze and reflect on their own teaching practice. Show confidence in the value of one's own knowledge that arises in teaching practice and willingness to share it.
INTEGRATION OF DIGITAL MEDIA TO TEACHING	MOC5181	At the end of the course, the student will select the most appropriate digital media to integrate into their teaching practice, considering a student-centered learning perspective in which the student uses technology to expand their cognitive abilities and to create original digital products.
PRESCHOOL EDUCATION ELECTIVE		
LEARNING THEORIES	MOC5011	At the end of the course, the student will transform his teaching practice from a deeper analysis of the underlying theories in his own action, and to use alternative theories to explain learning situations of his students.
COGNITIVE CHILD DEVELOPMENT	MOC5091	At the end of the course, the student will determine the influence of biological and environmental factors on the cognitive development processes of children up to preschool age, being able to intervene in the creation of their own conditions for their proper development.
INSTRUCTIONAL DESIGN	MOC5031	At the end of the course, the student will select and apply an instructional design model to solve a problem related to teaching-learning. At the end of the course, the student will evaluate the results achieved during and after applying a given instructional design model.

SOCIO-AFFECTIVE DEVELOPMENT OF CHILDREN	MOC5101	At the end of the course, the student will determine the influence of biological and environmental factors on the social development processes of children up to preschool age, being able to intervene in the creation of conditions conducive to their proper development.
COMPETENCIES APPROACH IN EDUCATION	MOC5051	At the end of the course, the student will plan, teach and evaluate competencies through the application of the knowledge acquired in the course.
PRESCHOOL LEARNING ENVIRONMENTS	MOC5111	At the end of the course, the student will design, apply and evaluate learning environments appropriate to the psycho-biological characteristics of the infants, participating in the preschool educational level.
LANGUAGE ACQUISITION	MOC5121	At the end of the course, the student will design strategies that promote an adequate acquisition of both mother tongue and a second language in preschool students.
LEARNING ASSESSMENT	MOC5081	At the end of the course, the student will design a set of strategies and evaluation instruments to evaluate the learning of their students.
PROFESSIONAL RESPONSIBILITY	REP5021	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
PRIMARY EDUCATION ELECTIVE		
THEORIES OF LEARNING	MOC5011	At the end of the course, the student will transform their teaching practice from a deeper analysis of the underlying theories in his own action, and to use alternative theories to explain learning situations of his students.
TEACHING STRATEGIES OF READING WRITING	MOC5021	At the end of the course, the student will recognize the cognitive process involved in learning the written language and the impact this has on learning methodologies. Identify the evolution of methodologies for the teaching of the written language at basic education levels. Recognize the implications of the use of one methodology or another in the teaching of the written language and the development of critical and creative thinking of the learner.
INSTRUCTIONAL DESIGN	MOC5031	At the end of the course, the student will select and apply an instructional design model to solve a problem related to teaching-learning. At the end of the course, the

		student will evaluate the results achieved during and after applying a given instructional design model.
STRATEGIES FOR LEARNING MATHEMATICS	**MOC5041**	At the end of the course, the student will design a module or topic of his course using the strategies revised in the course; they will record a video demonstrating their work in the classroom.
COMPETENCIES APPROACH IN EDUCATION	**MOC5051**	At the end of the course, the student will plan, teach and evaluate competencies through the application of the knowledge acquired in the course.
STRATEGIES FOR LEARNING THE SCIENCES	**MOC5061**	At the end of the course, the student will design an instruction module using various strategies that improve science learning.
EXPERIENTIAL LEARNING STRATEGIES	**MOC5071**	At the end of the course, the student is able, given an authentic learning problem, to apply a set of teaching strategies based on social constructivism to design, apply and evaluate a complete learning experience.
LEARNING ASSESSMENT	**MOC5081**	At the end of the course, the student will design a set of strategies and evaluation instruments to evaluate the learning of their students.
PROFESSIONAL RESPONSIBILITY	**REP5021**	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.

MASTER IN BUSINESS STRATEGIES

HUMAN RESOURCES MANAGEMENT	**MER5921**	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.
STRATEGIC MANAGEMENT	**MER5931**	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.

MARKETING MANAGEMENT	MER5941	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications to meet both the needs of their current target markets and potential new markets.
ADVANCED SELECT TOPICS	MER5121	The student will analyze manufacturing management topics (defined each year) to keep updated.
FINAL PROJECT	MER5131	At the end of the course, the student will present an academic document in corporate finance. This academic document may be: Case studies to specific situations of where the student works, or in a company where the university has an agreement, providing solutions using the relevant tools acquired during their studies. Concrete projects of business application, highlighting the stages of achieving it. Real business problems and their solution, applying express tools acquired in the program.
CORPORATE SOCIAL RESPONSIBILITY	MER5961	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context. The ethical, economic and social principles of corporate social responsibility will be known and applied. Strategies and instruments will be developed and applied that position a company as socially responsible.
INNOVATION AND ENTREPRENEURSHIP ELECTIVES		
FINANCIAL MANAGEMENT	MER5901	At the end of the course, the student will perform analysis and interpretation of financial statements of a company, in addition to being able to use financial management tools for business decision-making.
STATISTICS APPLIED TO BUSINESS	MER5911	At the end of the course, the student will have a solid foundation of probability and statistical theory and, at the same time, point out the transcendence and importance of both in the solution of real problems; likewise, they will be able to explain the theory and solve real problems concerning univariate time series and to perform analyses by using statistical computation packages.
ENTREPRENEURIAL THINKING AND BUSINESS PLANS	MER5011	At the end of the course, the student will be able to know the nature of the business process, the entrepreneurial initiative so that, through it, business opportunities can be identified. Analyze the viability of

		business opportunities by developing a business plan. Identify the resources and strategies necessary to enable the exploitation of business opportunities.
INNOVATION AND CREATIVITY IN COMPANIES	**MER5021**	At the end of the course, the student will be able to identify the different individual and group techniques that develop creativity and innovation. Analyze the transformation of the competitive landscape and the opportunities for the creation of value and innovation. Take stock of the organizational transformation that allows to institutionalize innovation.
MANAGING INNOVATION IN SUSTAINABLE ENVIRONMENTS	**MER5031**	At the end of the course, the student will be able to analyze the current competitive landscape in which companies perform, highlighting the importance of innovation as a strategic variable. Formulate strategies in which innovation is privileged and at the same time allow the company to achieve the strategic objectives that have been previously established. Propose the necessary adaptations to the current organization, both internally and externally, so that in the strategic approach it can be carried out.
FINANCING AND INVESTMENT DECISIONS FOR NEW BUSINESSES	**MER5041**	At the end of the course, the student will identify the necessary phases for the planning and financial evaluation of an investment project. Applying the criteria to calculate the initial net investment and expected flows of investment projects, they were able to carry out a financial planning of an investment project with real data. Perform the calculation of the rate to discount the flows (both by investment criteria and financing costs). Evaluate flows according to the main financial indicators for the evaluation of investment projects.
SELECT TOPICS	**MER5051**	The student will analyze manufacturing management topics (defined each year) to keep updated.
BUSINESS ECONOMICS	**MER5061**	At the end of the course, the student will use economic tools to explain the decision-making phenomena of companies, as well as the influence of their environment, according to the level of behavior of their consumers, competitors, related markets and the aggregate environment of the economy.

PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
FINANCIAL MANAGEMENT ELECTIVE		
FINANCIAL MANAGEMENT	MER5901	At the end of the course, the student will analyze and interpretat financial statements, in addition to being able to use financial management tools for business decision-making, both operation, financing and investment.
BUSINESS STATISTICS	MER5911	At the end of the course, the student will have a solid foundation of probability and statistical theory and, at the same time, point out the transcendence and importance of both in the solution of real problems; likewise, they will be able to explain the theory and solve real problems concerning univariate time series and perform analyses by using statistical computer software.
FINANCIAL STRATEGIES	MER5071	At the end of the course, the student will be able to understand and apply the main tools of the 3 objectives of corporate finance: operation, financing and investment. Specifically, the management of working capital and the calculation of the cost of capital will be highlighted. the definition of optimal capital structure and investment criteria in merger and acquisition decisions. In addition, the Financial Management criteria related to periods of crisis, compliance with codes of best business practices (national and international) and the importance of the formation of Corporate Governance related to financial reporting processes will be analyzed and evaluated.
FINANCIAL MARKETS	MER5081	At the end of the course, the student will become familiar with the financing options offered by national and international financial markets, as well as with the risks that arise from operating in them, and with the existing risk hedging mechanisms.
INTERNATIONAL CORPORATE FINANCE	MER5091	At the end of the course, the student will be able to apply international finance tools that maximize the value of a company that trades in more than one country. Specifically, the financial administration will highlight in the management decisions regarding transactions with different exchange rates, making foreign direct investment, international acquisitions,

		calculation of multinational capital budget and international trade financing decisions.
PLANNING AND FINANCIAL EVALUATION OF INVESTMENT PROJECTS	**MER5101**	At the end of the course, the student will be able to identify the necessary phases for the planning and financial evaluation of an investment project. They will apply calculation criteria of the initial net investment and expected flows of investment projects, carrying out a financial planning of an investment project with real data. The calculation of the rate will be made to discount the flows (both by investment criteria and financing costs). Flows will be evaluated according to the main financial indicators for the evaluation of investment projects.
SELECT TOPICS	**MER5051**	The student will analyze manufacturing management topics (defined each year) to keep updated.
RISK MANAGEMENT	**MER5111**	At the end of the course, the student will be able to apply the standards, procedures and techniques used in the industry to identify, mediate and manage financial risks in the different portfolios and business units. In the same way, they will be able to evaluate the advantages and limitations of the different methodologies so that they can contribute to the comprehensive risk management of a company.
PROFESSIONAL RESPONSIBILITY	**REP5011**	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.

MASTER IN CORPORATE FINANCE

HUMAN CAPITAL MANAGEMENT	**MNE5131**	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings within the work.
PROJECT MANAGEMENT AND CONTROL	**MNE5141**	At the end of the course, the student will plan, schedule and control projects, with an efficient use of resources and time, as well as controlling costs and meeting the

		specified quality requirements. For this, students will be able to understand and use techniques and tools necessary for project management.
BUSINESS ECONOMICS	**MNE5151**	At the end of the course, the student will use economic tools, to explain the decision making of companies, as well as the influence of their environment; the level of behaviour of its consumers, competitors, related markets and the aggregate environment of the economy.
CORPORATE MANAGEMENT AND STRATEGY	**MNE5161**	At the end of the course, the student will formulate strategic actions to guide business decisions to achieve objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
FINAL PROJECT	**MFD5111**	At the end of the course, the student will present an academic document in corporate finance. This academic document may be: Case studies to specific situations of where the student works, or in a company where the university has an agreement, providing solutions using the relevant tools acquired during their studies.
SOCIAL RESPONSIBILITY IN BUSINESS	**MNE5181**	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context; know and apply the ethical, economic and legal principles of corporate social responsibility; and develop and apply strategies and instruments that position a socially responsible company.
CORPORATE FINANCIAL MANAGEMENT ELECTIVE		
FINANCIAL ANALYSIS AND MANAGEMENT	**MDF5011**	At the end of the course, the student will understand and apply the main financial accounting concepts in business decision-making. Specifically, emphasis is placed on financial analysis and interpretation, as well as the use of the main concepts, administrative strategies and cost control. This will be useful to plan, control and make decisions in service, commercial and manufacturing companies.

PROFESSIONAL RESPONSIBILITY	REP5021	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
QUANTITATIVE DECISION-MAKING METHODS	MNE5011	At the end of the course, the student will solve specific business problems, relying on probability, statistics, linear programming and econometrics. The emphasis of applying quantitative methods for administration, solving specific problems using excel tools (such as solver and regression) will be highlighted.
CORPORATE FINANCE	MFD5021	At the end of the course, the student will be able to understand and apply the main tools of the 3 objectives of corporate finance: operation, financing and investment. Specifically, the management of working capital and the calculation of the cost of capital will be highlighted, as will the definition of optimal capital structure and investment criteria in merger and acquisition decisions. In addition, the financial management criteria related to crisis periods, compliance with best business practices (national and international) and the importance of corporate governance related to financial reporting processes will be analyzed and evaluated.
PROJECT PLANNING AND FINANCIAL EVALUATION	MFD5031	At the end of the course, the student will identify the necessary phases for the planning and financial evaluation of an investment project. They will be able to apply calculation criteria of the initial net investment and expected flows of investment projects, carrying out financial planning of an investment project with real data. Perform the calculation of discount rate to flows (both by investment criteria and financing costs, and evaluate flows according to the main financial indicators for the evaluation of investment projects.
ADMINISTRATIVE FINANCIAL PLANNING AND CONTROL SYSTEMS	MFD5041	At the end of the course, the student will identify the characteristics of financial administrative control systems, to detect deviations and make decisions to correct the course with the purpose of achieving the goals of the organization. To do this, they will consider the environment, strategy, culture and organizational structure, as well as the financing and use of its resources. Different tools (qualitative and quantitative) will be used to evaluate the achievement of the objectives, as well as

		to apply corrective and/or preventive measures in case of differences or deviations.
INTERNATIONAL FINANCE	**MFD5051**	At the end of the course, the student will be able to apply international finance tools that maximize the value of a company that trades in more than one country. Apply financial management in management decisions regarding transactions with different exchange rates, making foreign direct investment, international acquisitions, calculating multinational capital budget and international trade financing decisions.
SELECT TOPICS	**MFD5061**	The student will analyze selected topics (defined each year) to keep updated, in the topics related to the corporate finance.
CORPORATE LEGAL AND TAX FRAMEWORK	**MFD5071**	At the end of the course, the student will identify the essential and valid elements of business contracts (established by contemporary legal doctrine and by the legal framework applicable at national and international levels). They will have the critical elements to analyze the various dispute resolution alternatives, favoring the study of international commercial arbitration. The importance of foreign investment, industrial and intellectual property, and corporate tax will be analyzed as elements that allow legal certainty to the transactions held by the various economic agents that converge in national and international transactions.
MANAGEMENT OF FINANCIAL INSTITUTIONS ELECTIVES		
FINANCIAL ANALYSIS AND MANAGEMENT	**MDF5011**	At the end of the course, the student will understand and apply the main financial accounting concepts in business decision-making. Specifically, emphasis is placed on financial analysis and interpretation, as well as the use and application of the main concepts, administrative strategies and cost control.
PROFESSIONAL RESPONSIBILITY	**REP5021**	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
QUANTITATIVE METHODS FOR DECISION-MAKING	**MNE5011**	At the end of the course, the student will solve problems, relying on probability, statistics, linear programming and econometrics. The emphasis will be in applying quantitative methods to administration, solving specific

		problems using excel tools (such as solver and regression).
FINANCIAL MANAGEMENT IN INSURANCE AND BONDS	**MFD5081**	At the end of the course, the student will identify the main technical elements involved in the insurance and bond sectors, as well as apply the necessary statistical tools for their technical treatment. They will understand the general technical procedures necessary to calculate risks and reserves.
PROJECT PLANNING AND FINANCIAL EVALUATION	**MFD5031**	At the end of the course, the student will identify the necessary phases for the financial evaluation of an investment project. They will be able calculate the initial net investment and expected flows of investment projects, thus being able to carry out financial planning of an investment project with real data. They will perform the calculation of the rate to discount the flows (both by investment criteria and financing costs), and evaluate flows according to the main financial indicators.
MICROFINANCE MANAGEMENT	**MFD5091**	At the end of the course, the student will apply the monitoring tools of microfinance, interpret results and issue recommendations to improve effectiveness.
BANKING ADMINISTRATION	**MFD5101**	At the end of the course, the student will understand the administration and structure of banking institutions and financial groups, as well as banking intermediation operations, risk management and other non-financial services. In addition, they will know the regulatory framework in which they operate and their differences and similarities with financial systems of other countries.
SELECT TOPICS	**MFD5061**	Students will analyze selected topics (defined each year) to keep updated, in corporate finance topics.
CORPORATE LEGAL AND TAX FRAMEWORK	**MFD5071**	At the end of the course, the student will identify the essential and valid elements of business contracts (established by contemporary legal doctrine and by the legal framework applicable at national and international levels). They will have the critical elements to analyze the various dispute resolution alternatives, favoring the study of international commercial arbitration. The importance of foreign investment, industrial and intellectual property, and corporate tax will be analyzed as elements that allow legal certainty to the transactions held by the

		various economic agents that converge in national and international transactions.

MASTER IN CONSTRUCTION PROJECT MANAGEMENT

LEGISLATION IN CONSTRUCTION	**MGE5011**	At the end of the course, the student will achieve a normative training and an interest to be updated permanently, in relation to the legal provisions that affect the construction industry.
BUDGET CONTROL AND WORK EXECUTION	**MGE5021**	At the end of the course, the student will learn the use of the most used methods in cost control and construction schedules.
EFFICIENCT USE OF RESOURCES IN CONSTRUCTION	**MGE5031**	At the end of the course, the student has the fundamentals of engineering time and movement methods to improve productivity in construction projects.
WORK PLANNING	**MGE5041**	At the end of the course, the student will learn the use of the most used methods in work planning.
QUALITY IN CONSTRUCTION PROCESSES	**MGE5051**	At the end of the course, the student will know the philosophy and methodology of total quality control models applied to civil works, learn the characteristics of the quality models and techniques for their implementation, learn methodological techniques from statistical tools, accompanied by standards and specifications to plan, control and manage processes, knowing specific research and development concepts.
EVALUATION OF CONSTRUCTION PROJECTS	**MGE5061**	At the end of the course, the student will propose the evaluation of infrastructure projects, integrating the knowledge of cost analysis and market strategies courses, as well as those of civil engineering.
SELECT TOPICS	**MGE5071**	At the end of the course, the student will be able to manage the knowledge acquired in their studies to develop the applications related to them.

FINAL PROJECT	MGE5081	At the end of the course, the student will have the ability to apply the knowledge acquired in their studies to propose a solution to a problem in their area. At the end, the student will elaborate and presente a thesis proposal, with a theoretical framework and a conceptual analysis of the subject.
THERMAL COMFORT AND ENERGY EFFICIENCY	MDE5021	At the end of the course, the student will be able to evaluate aspects of the thermal performance and energy efficiency of buildings and know the standards, rules and design recommendations to evaluate the thermal performance of buildings and their components, to improve their energy efficiency.
HUMAN RESOURCES MANAGEMENT	MER5921	At the end of the course, the student will design and implement the processes of selection, recruitment and hiring to include workers in an organization, their development and training, the forms of separation and motivation of human beings at work.
STRATEGIC MANAGEMENT	MER5931	At the end of the course, the student will formulate strategic actions to guide business decisions towards the achievement of their objectives; know and apply tools for the analysis of the external environment of a company and its competitive position; develop and implement organizational structures and systems for evaluating strategic actions.
MARKETING MANAGEMENT	MER5942	At the end of the course, the student will develop marketing strategies, based on market knowledge, which includes the development and decisions about product and services, brands and value, as well as the mechanisms of promotion, price, distribution and communications to meet both the needs of their current target markets and potential new markets.
ADVANCED SELECT TOPICS	MER5951	At the end of the course, the student will be able to manage the knowledge acquired in their studies to develop the applications related to them.
CORPORATE SOCIAL RESPONSIBILITY	MER5961	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context. The ethical, economic and social principles of corporate social responsibility will be known and applied. Strategies and instruments will be developed and applied that position a company as socially responsible.

PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will broadly recognize and manage values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and inherent regulations of the current system.

MASTER IN GOVERNANCE AND GLOBALIZATION

GOVERNANCE AND POLITICAL THEORY	MGG5011	At the end of the course, the student will critically use the different concepts of governance to analyze public policies and power structures at the regional, national and global levels
SELECT TOPICS	MGG5021	In the subject is fundamentally will be analyzed in depth the selected topics (defined each year) to keep the student updated in topics related to the various aspects of business administration.
INTERNATIONAL RELATIONS: GLOBALIZATION AND REGIONALISM	MGG5031	At the end of the course, students will be able to analyze processes and dynamics related to Global Political Economy. At the end of the course, students who have completed the required activities will be able to work and collaborate successfully as a group.
GLOBAL POLITICAL ECONOMY	MGG5041	At the end of the course, students who have completed the required activities will be able to analyze processes and dynamics related to Global Political Economy. At the end of the course, students who have completed the required activities will be able to work and collaborate successfully as a group.
GOVERNANCE AND MIGRATION	MGG5051	At the end of the course, students who have completed the required activities will be able to analyze processes and dynamics related to Global Political Economy. At the end of the course, students who have completed the required activities will be able to work and collaborate successfully as a group.
NATIONAL SECURITY IN A GLOBAL CONTEXT	MGG5061	At the end of the course, the student will understand the mutual influence of national security and globalization, in a context of interaction and contemporary international dynamism. In the same way, the student will be able to carry out analysis of empirical conjuncture and theoretical-conceptual depth on the most important aspects of national and regional security.

GOVERNANCE, CONSTITUTIONALITY AND SUSTAINABLE DEVELOPMENT	MGG5071	At the end of the course, the student will analyze problems in terms of governance and constitutionalism to propose solutions in sustainable development.
LOBBYING	MGG5081	At the end of the course, the student will understand the dynamics of public policies and, in this way, propose alternative courses to strategic actors within the framework of the Mexican political system and with attention to the conditions of the international system.
ADVANCED SELECT TOPICS	MGG5091	At the end of the course, the student will be able to manage the knowledge acquired in their studies to develop the applications related to them.
FINAL PROJECT	MGG5101	At the end of the course, the student will have the ability to apply the knowledge acquired to propose a solution to a problem in their work environment. At the end, the student will have elaborated and presented his formal thesis, with a theoretical framework and a conceptual analysis of the subject.
GOVERNANCE AND INTERNATIONAL ORGANIZATIONS	MGG5111	At the end of the course, the student will analyze and evaluate the role they play, as well as the impact that various intergovernmental and non-governmental organizations have on global governance. At the end of the course, the student will propose new ways in which international organizations can contribute to a more efficient and effective global governance.
INTERNATIONAL STUDIES	MIM5101	At the end of the module, the student will know and understand the formal structure on which the international system rests. They will understand the challenges and opportunities offered by international companies with both local and global operations and make timely investment decisions, which consider the wide range of international elements, institutional and non-institutional, that affect the success or failure of a company.
PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.

CORPORATE RELATIONS AND BUSINESS DIPLOMACY	MIM5151	At the end of the course, the student will be able to solve corporate relations and business diplomacy problems, understanding, analyzing and bringing to the business environment viable and feasible solutions to the problems faced by corporations in this area, reaching agreements with the various state actors (such as governments) and non-state (such as NGOs) and to follow up and implement solutions.
INTERNATIONAL BUSINESS	MIM5141	At the end of the course, the student will identify the uncontrollable variables that govern the strategies of entry to foreign markets. Evaluate foreign markets for the feasibility and attractiveness of a business opportunity (export or foreign investment). Acquire the methodology and practice to develop a Professional analysis of a selected overseas market for a particular product/company and industry.

MASTER IN INTERNATIONAL MANAGEMENT

MANAGERIAL ECONOMICS	MIM5131	At the end of the course, the student will apply Economic analysis tools to the problems faced by companies in their decisions; combining knowledge of supply and demand with market behaviour, inputs and outputs; recognizing the interrelationship of production and costs in the company's decision-making; understanding the different market structures and their characteristics to establish different alternative strategies that will determine the performance of the company and identifying, under an economic approach, the different internal and external factors that affect a company’s performance.
INTERNATIONAL BUSINESS	MIM5141	At the end of the course, the student will be able to identify uncontrollable variables that govern the strategies of entry to foreign markets. Evaluate foreign markets for the feasibility and attractiveness of a business opportunity (export or foreign investment). Acquire the methodology and practice to develop a professional analysis of a selected overseas market for a particular product/company and industry.

CORPORATE RELATIONS AND BUSINESS DIPLOMACY	MIM5151	At the end of the course, the student will be able to solve corporate relations and business diplomacy problems, understanding, analyzing and bringing to the business environment viable and feasible solutions to the problems faced by corporations in this area, reaching agreements with the various state actors (such as governments) and non-state (such as NGOs) and to follow up and implement solutions.
ADVANCED TOPICS	MIM5161	At the end of the course, the student will be able to identify the concepts and theoretical guides relevant to the management of talent in multinational companies. Define and propose solutions to talent management problems in multinational companies.
INTEGRATED PROJECT	MIM5171	At the end of the course, the student will be able to identify problems or opportunities found in the business environment. Identify relevant theoretical bases when diagnosing problems and opportunities, generating an analysis of symptoms, causes and consequences of the identified problem. Create a proposed solution to the problem or opportunity identified.
CORPORATE SOCIAL RESPONSIBILITY	MIM5181	At the end of the course, the student will reflect on the theoretical and practical relevance of the concept of social responsibility in the business context; the ethical, economic and legal principles of corporate social responsibility will be known and applied; Strategies and instruments will be developed and applied that position a company as socially responsible.
INTERNATIONAL MARKETING ELECTIVE		
MANAGERIAL FINANCE	MIM5011	At the end of the course, the student will be able to analyze and interpret a company's financial statements. In addition, they will use Financial Management tools to make business decisions, both operation, financing and investment.
BUSINESS STATISTICS	MIM5021	At the end of the course, the student will be able to analyze and solve specific business situations of problem, relying on probability, statistics, linear programming and econometrics tools. The emphasis on applying quantitative methods for administration, solving specific problems using Excel tools (such as "solver" and "regression") will be highlighted.

PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
INTERNATIONAL FINANCE STRATEGIES	MIM5031	At the end of the course, the student will be able to apply international finance tools that maximize the value of a company that trades in more than one country. Specifically, the Financial Administration will highlight in the management decisions regarding transactions with different exchange rates, making foreign direct investment, international acquisitions, calculation of multinational capital budget and international trade financing decisions.
SALES STRATEGIES	MIM5041	At the end of the course, the student will be able to develop strategic relationships by understanding the marketing process. Locate information and analyze products for proper marketing. Develop an appropriate sales strategy. Prepare and make a sales presentation. Identify and describe the elements necessary to effectively acquire and manage the sales force. Identify and describe the methods used to organize, motivate and compensate an effective sales force. Use sales technologies. Establish relationships between a company's sales function and the logistics function.
SELECT TOPICS (CONTEMPORARY TOPICS)	MIM5051	At the end of the course, the student will be able to design an export project, identifying the main stages and potential areas for critical incidents of an international logistics process.
INTEGRATED MARKETING COMMUNICATIONS	MIM5061	At the end of the course, the student will be able to understand the importance of communicating to the customer the products or services offered, through different integrated marketing communication tools. Apply the knowledge and tools that allow them to analyze and carry out integrated communication campaigns.
INTERNATIONAL MARKETING	MIM5071	At the end of the course, the student will know the global business environment and evaluate foreign markets to determine the feasibility and attractiveness of a business opportunity (export or foreign investment). Understand the uncontrollable variables that govern entry strategies. Use controllable variables to formulate a marketing mix for multi-domestic and/or

		global strategies. Acquire the knowledge and experience to develop practical plans/projects related to international marketing.
NEW E-MARKETING TRENDS	MIM5081	At the end of the course, the student will recognize how the internet and new information technologies are changing the marketing landscape and will understand the behavior of internet users, as well as the importance of user experience design and website usability to evaluate the potential of the internet to support one-on-one marketing and the range of tactics and systems available to support dialogue with customers on the internet. Finally, the student will understand how to implement digital marketing campaigns, as well as the importance of integrating online and offline communications.
OPTION IN GLOBAL STRATEGY		
MANAGERIAL FINANCE	MIM5011	At the end of the course, the student will be able to analyze and interpret a company's financial statements. In addition, they will use Financial Management tools to make business decisions, both operation, financing and investment.
BUSINESS STATISTICS	MIM5021	At the end of the course, the student will be able to analyze and solve specific business situations, relying on probability, statistics, linear programming and econometrics tools. The emphasis on applying quantitative methods for administration, solving specific problems using Excel tools (such as "solver" and "regression") will be highlighted.
PROFESSIONAL RESPONSIBILITY	REP5011	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system
STRATEGIES IN INTERNATIONAL FINANCE	MIM5031	At the end of the course, the student will be able to apply international finance tools that maximize the value of a company that trades in more than one country. Specifically, financial administration will highlight management decisions regarding transactions with different exchange rates, making foreign direct investment, international acquisitions, calculation of multinational capital budget and international trade financing decisions.

ORGANIZATIONAL ARCHITECTURE IN MULTINATIONALS	MIM5091	At the end of the course, the student will be able to enrich their understanding of organizational architecture problems of multinational corporations; know the concepts, theoretical principles and relevant design guides of the company's organizational architecture; analyze problems and propose informed solutions.
SELECT TOPICS (CONTEMPORARY TOPICS)	MIM5051	At the end of the course, the student will be able to design an export project. Identify the main stages and potential areas of critical incidents of an international logistics process.
INTERNATIONAL STUDIES	MIM5101	At the end of the module, the student will know and understand the formal structure on which the international system rests. They will understand the challenges and opportunities offered by international companies with both local and global operations and make timely investment decisions, which consider the wide range of international elements, institutional and non-institutional, that affect the success or failure of a company.
INTERNATIONAL OPERATIONS STRATEGY	MIM5111	At the end of the course, the student will be able to evaluate the main tools of global Strategic Management. They will identify the difference between business strategy and corporate strategy, and the difference between global and multinational industries. They will know the characteristics of the strategies of successful multinationals.
CORPORATE GOVERNANCE	MIM5121	At the end of the course, the student will be able to understand the processes, structures and composition of corporate governance, as well as the responsibilities of the directors to act in the representation of shareholders and investors, both in the control and compensation functions of the management team, as well as in the formulation of objectives and strategic guidelines.

MASTER IN CLINICAL PSYCHOLOGY

PREVENTION AND ATTENTION TO FAMILY VIOLENCE	**MPC5011**	At the end of the course, the student will recognize the different types of violence, prevention and care. They will recognize domestic violence as a prevalent health problem, with an impact on family and community. They will be able to diagnose abuse and violence situations in their different presentations. The student will have the theoretical tools to propose the prevention, diagnosis and follow-up of patients.
EMOTIONAL AND BEHAVIORAL DISORDERS	**MPC5021**	At the end of the course, the student will apply the basic knowledge about the etiology, classification and clinical characteristics of the most common emotional and behavioral disorders. They will propose the most appropriate forms of treatment for such disorders. Throughout the course, the student will be instilled with respect for the basic rules that should govern the conduct of professionals who study and treat patients with mental disorders. These standards are determined by the highest ethical principles and unrestricted respect for the human rights of patients.
PSYCHOANALYTIC PSYCHOTHERAPY	**MPC5041**	Explain the knowledge related to brief psychotherapy of psychoanalytic orientation. Experience the theoretical foundations of brief clinical intervention and the variation of traditional psychoanalytic techniques to carry focused treatment.
NEUROPSYCHOLOGICAL AND PSYCHOTIC DISORDERS	**MPC5051**	At the end of the course, the student will apply the basic knowledge about the etiology, classification and clinical characteristics of the most common neuropsychological and psychotic disorders. They will also propose the most appropriate treatments for such disorders. Throughout the course, the student will be instilled with respect for the basic rules that should govern the conduct of professionals who study and treat patients with mental disorders. These standards are determined by the highest ethical principles and unrestricted respect for the human rights of patients.
HUMANISTIC EXISTENTIAL PSYCHOTHERAPY	**MPC5071**	The student will read the main authors of the humanist-existential movement and compare them with other currents of psychology (behavioral-humanist). Use and apply the humanism-existential movement in psychotherapeutic practice.

SELECT TOPICS	**MPC5081**	Students will delve into specific current and relevant topics of clinical psychology. The topics will vary according to the needs of the students and the human resources available. At the end of the course, the student will develop fundamental competencies, on relevant topics of the clinical area.
COGNITIVE BEHAVIORAL PSYCHOTHERAPY	**MPC5031**	The student will describe and know the different techniques of Cognitive-Behavioral intervention, used to modify behaviors. They will also understand that in psychotherapy not only one aspect of the person is addressed, but several elements are: cognition, behavior and consequence.
CRISIS INTERVENTION	**MPC5061**	At the end of the course, the student will understand crisis intervention, health education and how to help in a situation of crisis, emergencies and disasters.
PSYCHOLOGICAL MEASUREMENT	**MPC5911**	At the end of the course, the student will construct and evaluate psychological measurement tests for their correct application and interpretation.
GROUP ADVICE	**MPC5921**	At the end of the course, the student will have the knowledge to understand the functioning of small groups, and will acquire experience through group dynamics developed in class.
STRATEGIES FOR DATA PROCESSING	**MPC5941**	At the end of the course, the student will identify the various methodologies to develop a research project in clinical psychology.
FINAL PROJECT	**MPC5951**	At the end of the course, the student will design and develop intervention projects in the areas of prevention and mental health treatment.
SOCIAL COGNITION AND ATTITUDES	**MPC5931**	At the end of the course, the student will describe the various aspects of social cognition, identifying the relationship between social phenomenon and social situation, and summarizing the interpretation that people could offer through preception, attribution, social inference and attitudes to apply this knowledge to the dynamic world of psychology.

THEORY AND TECHNIQUE OF THE INTERVIEW	**MPC5931**	The student will analyze, describe and compare different types of interviews used in psychology, according to their characteristics and purposes. They will do real interviews in the clinical field. The course introduces the student to the knowledge of the main instrumental techniques of psychology. The psychological interview can be developed from different approaches, and therefore it is necessary to lay the theoretical foundations that give students sufficient arguments to select the ideal type of interview. The information taught is related to other relevant courses in the program and promotes the development of skills indispensable for the practice of psychology. The structure of the course involves the common work of the teacher and the students to train them in the theory and practice of the technique of the psychological interview in its different modalities.
PROFESSIONAL RESPONSIBILITY	**REP5011**	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.

MASTER IN SPORTS PSYCHOLOGY

FUNDAMENTALS OF SPORTS PSYCHOLOGY	**MTE5011**	At the end of the course, the student will be able to understand the basic concepts of sports psychology and physical activity and identify and frame the role and function of the psychologist in the sports field, as well as the emotional and psychological factors that influence the health and performance of athletes.
PSYCHOLOGICAL INTERVENTION TECHNIQUES	**MTE5021**	At the end of the course, the student will be able to handle the most used psychological intervention techniques and develop the necessary skills to improve the effectiveness of psychological work and its effects on increasing sports performance.
PSYCHOLOGY OF SPORTS TRAINING	**MTE5041**	At the end of the course, the student will be able to apply the psychological methodology to optimize the sports training processes.

PSYCHOLOGY OF SPORTS COACHES	**MTE5051**	At the end of the course, the student will develop fundamental competencies on the psychology of sports coaches.
SELECT TOPICS	**MTE5071**	At the end of the course, the student will develop fundamental competencies in sports psychology, deepening their knowledge in specific topics. The topics will vary according to the needs of the students and the human resources available.
EXERCISE PHYSIOLOGY	**MTE5081**	Understand the fundamental elements of physical exercise. The course presents the student with the knowledge of the main mechanisms of adjustment of bodily functions during exercise under normal conditions and in extreme effort. The concepts necessary to understand the range of changes that occur in the body depending on the type of exercise performed. These concepts are essential because physical activity can take place under very variable conditions and for different purposes. Therefore, it is necessary to lay out the theoretical and practical foundations that give the student arguments to select the ideal type of physical activity necessary for the maintenance of health and the achievement of purposes related to sports competition. A primary objective is to establish the links between the theoretical bases of exercise physiology and its application in the field of sports practice. The structure of the course involves the common work of the teacher and the students to train them in the theory and practice of the techniques of physical training in their different modalities.
TRAINING METHODOLOGY	**MTE5031**	Know some fundamental aspects related to physical exercise and its use in the training process.
PROFESSIONAL RESPONSIBILITY	**REP5011**	At the end of the course, the student will be able to recognize and manage the values, principles and social responsibilities that contribute to the correct performance of their professional activities from the foundations, mechanics, structure and regulations inherent in the current system.
MENTAL TRAINING	**MTE5061**	Know and differentiate the characteristics of mental training and its area of intervention in the Sports Psychology.
PSYCHOLOGICAL MEASUREMENT	**MPS5011**	At the end of the course, the student will construct and evaluate the psychological measurement tests for their correct application and interpretation.
GROUP ADVICE	**MPS5021**	At the end of the course, the student will have the knowledge to understand how small groups function, also, they will

		acquire group experiences through group dynamics developed in class.
DATA PROCESSING STRATEGIES	**MPS5041**	At the end of the course, the student will identify the various methodologies to develop a research project in clinical psychology.
FINAL PROJECT	**MPS5051**	At the end of the course, the student will design and develop intervention projects in physical activity psychology and sports.
SOCIAL COGNITION AND ATTITUDES	**MPS5931**	At the end of the course, the student will describe social cognition, identifying the relationship between social phenomenon or social situation and summarize the interpretation that people could offer through preception, attribution, social inference and attitudes to apply this knowledge to the dynamic world of psychology.
THEORY AND TECHNIQUE OF THE INTERVIEW	**MPS5061**	The student will analyze, describe and compare different types of interviews used in psychology, according to their characteristics and purposes. They will do real interviews in the clinical field. The course introduces the student to the knowledge of the main instrumental techniques of psychology. The psychological interview can be developed from different approaches, and therefore it is necessary to lay the theoretical foundations that give students sufficient arguments to select the ideal type of interview. The information taught is related to other relevant courses in the program and promotes the development of skills indispensable for the practice of psychology. The structure of the course involves the common work of the teacher and the students to train them in the theory and practice of the technique of the psychological interview in its different modalities.

MASTER IN ORGANIZATIONAL PSYCHOLOGY

PROMOTION OF LABOR SKILLS	**MOR5011**	At the end of the course, the student will be able to handle the key concepts of the approach based on work competencies, the characteristics, behaviors, knowledge, skills and attitudes that define employees, which will allow

		them to significantly improve their intervention skills in organizations.
PRODUCTIVITY AND CREATIVITY	**MOR5021**	At the end of the course, students who have adequately fulfilled the activities carried out during the course, will be able to analyze the main principles and uses of human interaction in productivity in organizations. In addition, the student will know, analyze, evaluate and apply procedures to develop creativity in organizations. They will use these procedures as a tool to improve and innovate production processes.
CHANGE PROCESSES IN ORGANIZATIONS	**MOR5041**	At the end of the course, the student will be able to manage organizational development tools, as well as the planned interventions and the use of behavioral sciences in organizational processes, particularly related to change.
ORGANIZATIONAL DIAGNOSIS	**MOR5051**	At the end of the course, the student will recognize the main diagnostic tools and continuous improvement processes that ensure organizational quality.
PSYCHOLOGICAL COUNSELING IN ORGANISATIONS	**MOR5071**	At the end of the course, the student will be able to intervene in human groups to support social change in organizations. They will use the concepts, processes and strategies of administrative psychology to the dynamics of institutions and organized groups.
SELECT TOPICS	**MOR5081**	At the end of the course, the student will develop fundamental competencies on relevant psychology topics. They will deepen their knowledge in specific psychological knowledge topic. The topics will vary according to the needs of the students and the human resources available.
WORKING CONDITIONS AND PSYCHOLOGICAL FACTORS	**MOR5031**	At the end of the course, students who have adequately fulfilled the activities carried out during the course, will be able to identify, analyze and propose strategies to improve the conditions of psychological goods and human development in organizations.
PSYCHOLOGY OF LEADERSHIP AND DECISION-MAKING	**MOR5061**	At the end of the course, the student will identify the importance of leadership within the company and implement programs on the subject. They will learn to use efficient decision-making considering the implications in the organization.

PROFESSIONAL RESPONSIBILITY	**REP5021**	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
PSYCHOLOGICAL EVALUATION	**MOR5091**	At the end of the course, the student will construct and evaluate the psychological measurement tests for their correct application and interpretation.
GROUP MANAGEMENT	**MOR5101**	Recognize and analyze the types, techniques and basic tools in the management of groups to use them dynamically managing groups.
DATA COLLECTION AND PROCESSING	**MOR5121**	At the end of the course, the student will identify the various methodologies to develop a research project in organizational psychology.
FINAL PROJECT	**MOR5131**	Students will improve the knowledge acquired in their studies through supervised practice in the business environment.
SOCIAL PERCEPTION AND ATTITUDES	**MOR5111**	At the end of the course, students who have adequately fulfilled the activities carried out in the course, will be able to analyze the nature of perception, attribution, social inference and attitudes to interpret them in the field of organizational psychology.
PSYCHOLOGICAL INTERVIEW IN ORGANIZATIONS	**MOR5141**	The student will analyze, describe and compare different types of interviews used in psychology, according to their characteristics and purposes. They will do real interviews in the clinical field. The course introduces the student to the knowledge of the main instrumental techniques of psychology. The psychological interview can be developed from different approaches, and therefore it is necessary to lay the theoretical foundations that give students sufficient arguments to select the ideal type of interview. The information taught is related to other relevant courses in the program and promotes the development of skills indispensable for the practice of psychology. The structure of the course involves the common work of the teacher and the students to train them in the theory and practice of the technique of the psychological interview in its different modalities.

MASTER IN LEAN SYSTEMS

LEAN THINKING	MLS5011	At the end of the course, the student will describe lean principles, and the opportunities to apply them in different organizations, including quality control tools and contributing to the implementation of an improvement project.
LEAN MANUFACTURING	MLS5021	At the end of the course, the student will apply the basic concepts of lean manufacturing, identifying the areas where they can be used and the different ways to measure their performance.
WASTE REDUCTION TECHNIQUES	MLS5031	At the end of the course, the student will identify and analyze the different types of waste in production systems, using various tools to apply the most appropriate ones to eliminate or reduce it. These techniques allow for more efficient and effective processes.
STATISTICAL TECHNIQUES FOR QUALITY	MLS5041	At the end of the course, the student will organize and describe univariate data, and design sample selection processes to obtain meaningful information from it.
SELECT TOPICS	MLS5051	At the end of the course, the student will manage the knowledge acquired in their studies to develop the applications related to them.
STATISTICAL PROCESS CONTROL	MLS5061	The student will apply statistical quality control techniques as a tool to obtain uniform quality in production systems. They will know and analyze the theoretical concepts of the different control systems and graphs.
ADVANCED SELECT TOPICS	MLS5071	At the end of the course, the student will manage the knowledge acquired in their studies to develop the applications related to them.
LEAN SYSTEMS IN SERVICES	MLS5081	At the end of the course, the student will understand the basic elements of a lean system focused on services, and use tools necessary for the evaluation, planning and control of these systems.
DESIGN OF MANUFACTURING SYSTEMS	MLS5091	At the end of the course, the student will understand the analytical principles of design, control and analysis of manufacturing systems. They will integrate the concepts of variability and stochastic analysis learned in other courses into the manufacturing environment.
FINAL PROJECT	MLS5101	At the end of the course, the student will develop and lead a project that integrates the knowledge acquired during their studies.

SUPPLY CHAIN	**MLS5111**	At the end of the course, the student will understand supply chain's main elements, as well as the relevant aspects in the design and operation of the supply networks.
FINANCIAL ANALYSIS AND MANAGEMENT	**MFD5011**	At the end of the course, the student will understand and apply the main financial accounting concepts in business decision-making. Specifically, emphasis is placed on financial analysis and interpretation, as well as the use of the main concepts, administrative strategies and cost control, which is useful for planning, control and decision-making processes of service, commercial and manufacturing companies.
CORPORATE STRATEGIC MANAGEMENT	**MNE5161**	At the end of the course, the student will prepare strategies to guide business decisions towards their objectives. They will know and apply tools to analyze a company's external environment and its competitive position, and develop and implement organizational structures and systems to evaluate strategic actions.
PROFESSIONAL RESPONSIBILITY	**REP5021**	At the end of the course, students will strengthen their humanistic vision and professional vocation, framing the awareness of the values that nourish their training in dignity, freedom and respect for the activities they perform.
GLOBAL PROJECT MANAGEMENT	**MNE5051**	At the end of the course, the student will manage projects with an international or global scope, understanding the various contextual factors that affect the behavior of multinational project teams and creating the necessary processes to achieve an effective and efficient management of the project.