

UNIVERSIDAD DE LAS AMÉRICAS PUEBLA



COURSE
CATALOG
· 2017 ·

INDEX

3 HISTORY

4 ADMINISTRATION

20 INTEGRAL DEVELOPMENT OF THE STUDENT

23 ADMISSIONS

26 SCHOOL CALENDAR

30 SCHOOL OF ARTS AND HUMANITIES

68 SCHOOL OF SOCIAL SCIENCES

112 SCHOOL OF SCIENCES

148 SCHOOL OF ENGINEERING

199 SCHOOL OF BUSINESS AND ECONOMICS

HISTORY

Universidad de las Américas Puebla was founded in 1940, in the nation's capital; it was known then as Mexico City College. In order to reflect the fraternity between the United States and Latin American countries, in the early 1960s it changed its name to University of the Americas. By then, the prestige of its professors and research projects, such as the Oaxaca Archeology Program, positioned the university abroad and in Mexico as one of the best options for students who wanted an excellent education with a bicultural vision.

In 1966, the Fundación Mary Street Jenkins assigned funds for the university to establish itself in the Cholula municipality, at the Santa Catarina Mártir hacienda, with over 80 hectares, and located between the Popocatepetl and Iztaccíhuatl volcanoes. Now known as Universidad de las Américas Puebla, its innovative education project included not only the School of Arts and Science, but also opening the School of Engineering and the School of Administration and Business. The university received approval and official recognition from the federal Secretary of Public Education, the Southern Association of Colleges and Schools Commission on Colleges - SACSCOC, as well as from the business sector and area governments.

In 1985, the university became independent, both legally and ideologically, from the Civil Association in Mexico City, and was now known as Fundación Universidad de las Américas, Puebla. Its philosophy was now education with human, scientific, and universal spirit, coupled with academic excellence and academic freedom. The university began to be considered as one of the most important private education institutions in the country.

At UDLAP, history has taught us that an active conscience and community participation are important to guarantee the success of every member of the university. Therefore, each triumph and advance in the different disciplines and fields of knowledge, position it as a leader. In this sense, you cannot hear the name Universidad de las Américas Puebla without invoking, at the same time, the greatest victories of its Aztecas sports teams, which from the beginning have been outstanding in football, soccer, taekwondo, basketball, tennis, and athletics. Their participation has made the institution a leader in the CONADEIP (Comisión Nacional Deportiva Estudiantil de Instituciones Privadas, A. C.) Premiere League.

Likewise, Aztecas have also excelled in the cultural area, presenting for society impeccable artistic shows: folkloric dance, dance, chamber music, opera, theater, cinema, and art exhibitions, to name a few of the most relevant activities the university has held on campus and in its cultural extensions, such as Biblioteca in San Pedro Cholula Capilla del Arte and in downtown Puebla.

Today, the classrooms of UDLAP's five Schools - Social Sciences, Humanities, Engineering, Science and Business, and Economics - have been modernized to meet the technological and scientific advances of our age. The modern laboratories, classrooms, sports facilities, library, IT, and university colleges have contributed to create a favorable and privileged environment for students and faculty to learn and grow. Seventy-seven generations have studied at the university, excelling in their accomplishments in research, scholarship, and consulting.

ADMINISTRATION

- **PRESIDENCY**
- **PRESIDENCY OFFICE**
- **VICE-PRESIDENCIES AND MANAGING OFFICES**
- **ACADEMIC VICEPRESIDENCY**
- **ADMINISTRATIVE VICEPRESIDENCY**
- **STUDENT AFFAIRS VICEPRESIDENCY**
- **FINANCES AND INSTITUTIONAL DEVELOPMENT VICEPRESIDENCY**
- **INFORMATION TECHNOLOGIES**
- **PLANNING AND EVALUATION**
- **CULTURAL SPREADING**
- **SECURITY AND SAFETY**

Name	Position
Luis Ernesto Derbez Bautista	President
Cecilia Anaya Berrios	Academic Vice President
Mónica Ruiz Huerta	Administrative Vice President
Ma. del Carmen Palafox Ramos	Student Affairs Vice President
Mario Vallejo Pérez	Finances and Institutional Development Vice President
Mayra Ortiz Prida	Managing Director
Lorena Martínez Gómez	Planning and Evaluation Department, Managing Director
Martha Laura Ramírez Dorantes	School of Arts and Humanities Dean
José Daniel Lozada Ramírez	School of Sciences Dean
Raphael Steger Cataño	School of Social Sciences Dean
José Ángel Raynal Villaseñor	School of Engineering Dean
Howard Stanley Hart	School of Business and Economics Dean
Fernando Thompson de la Rosa	Chief Information Officer



MISSION AND VISSION

MISSION

To participate in society's development by preparing critical, creative and innovative professionals with the highest technical level; as well as to generate pertinent research. All this with a social conscience that demands a fair distribution of the benefits of globalization.

VISSION

To be a leading university in Latin America regarding study programs and scientific, cultural, sports, and public policy proposal programs to respond to the challenges of globalization.

VALUES

- **FREEDOM WITH RESPONSIBILITY**
- **TOLERANCE AND NON DISCRIMINATION**
- **HONESTY AND INTEGRITY**
- **SOLIDARITY**
- **TRANSPARENCY**

CAMPUS

Our campus is known as one of the most diverse and green in the region. Currently, it has 80 hectares of which 50.61 are green spaces. Not only that, UDLAP has spaces for you to carry out your activities without difficulties:

PERFORMING ARTS HALL

This space includes audio and lighting equipment, stage, seats, backstage dressing rooms, storage room, ticket office and workshop..

AUDITORIUM

The space most used for lectures, meetings, plays and other events. Located in the center of the campus, it is the most popular meeting place; it would be hard for you not to find some activity inside.

LIBRARY

For your days and nights of study, our library, besides being comfortable, combines a traditional design with personal and virtual information services; it includes four multi-media rooms and three rooms for bibliographical instruction with computers; it also has individual and group cubicles.

COMPUTER ROOMS

UDLAP has three large computer halls with over 866 last generation computers at your service with specialized software for your courses. Use them whenever you need, 24/7. You can find them at: Business and Economics Room, NE-137 Arts and Humanities Room, HU-224 Science Room, CN-106

LABORATORIES

As part of your academic program, we have laboratories for science, health sciences, mechanical and industrial engineering, electronic engineering, telecommunications, and a water treatment plant; a language learning complex, oral trials hall, financial simulation room, and projection room; laboratories for innovation and qualitative research, laboratories for quantitative research and market and retail intelligence, psychology lab, Gesell Camera, and mobile applications lab; photography labs, television set with dressing rooms, dance and music rooms, and a 3D printer. Finally, we have a hospitality lab, better known as San Andrés Hostel, open to the UDLAP community and run by students from that program.

STUDENT CENTER

This is a favorite meeting place for the UDLAP community; it offers services and activities to occupy most of your free time. Here you can find food vendors, paper supplies, projection rooms, and student organizations offices.

SPORTS FACILITIES

We are concerned about your development, both academic and physical, so we have optimal sports facilities that you can access daily to take care of yourself.





YOU CAN FIND:

- Swimming pool
- Baseball field
- Futsal field
- Basketball courts
- Tennis courts
- Integral rehabilitation center
- Basketball court in the Moe Williams Gym
- Weight gym
- Running track
- Football field, Templo del Dolor
- Soccer fields.

MEDICAL SERVICES AREA

To safeguard your health and physical wellbeing, we have a medical services and clinical analysis center that cares for community members free of charge whenever they need it. UDLAP has an integral rehabilitation center that offers orthopedic and joint medical attention, sports medicine, rehabilitation, physiotherapy, nutrition, and physical training with the latest scientific and technological know-how, always looking for innovation.

RESIDENTIAL COLLEGES

Equipped with dorms, projection rooms, auditoriums, cafeterias, and more, we have designed spaces so you can live comfortably on campus. You may choose from our four colleges: Cain-Murray, Ray Lindley, Ignacio Bernal, and José Gaos, located around campus.

GREEN SPACES AND RECREATION

Ideal for relaxation, meeting friends, and outdoor activities, they are favorite places of our UDLAP community.

Among them you can find the lake, the Bonfire and Meditation Gardens, the Couple and Central Fountain Garden, and the Flag Plaza; all of them meeting points known to all the university community.



STRATEGIC PLAN 2013-2018

Universidad de las Américas Puebla's strategic plan for the period 2013-2018 is defined and derived from the institution's vision and gives life to its current mission. This mission is split into strategic guidelines whose objectives and actions must be oriented towards key principles, fostering a behavior based on institutional values.

The mission is accomplished through the seven guidelines described below:

I. RELEVANT STUDY PROGRAMS

Quality licenciatura and graduate study programs, offered on campus and online, that meet the needs and expectations of public, private and society's organizations, and are the foundations for the professional development of our alumni.

II. PRESTIGIOUS FACULTY

Professors who have national and international renown derived from their academic formation, professional development, teaching experience and/or artistic creation.



III. RESEARCH AND ARTISTIC CREATION

Developing research projects and/or artistic creation has as an objective to generate cutting-edge knowledge that influences the education of people at a high level, and whose results and/or products are presented, disseminated and/or published in different forums.

IV. STUDENTS OF EXCELLENCE

Students noteworthy for their education, learning experiences, competencies and social responsibility that lead to a comprehensive professional, personal, cultural and physical development during their trajectory at the University, and who meet all standards of quality and excellence demanded by public and private organizations and society.



V. OUTREACH

Generation and establishment of national and international links with alumni, public and private organizations and society to promote cooperation for mutual benefit.

VI. ADMINISTRATIVE EFFICIENCY

Administration of the University's financial and material resources to reach its objectives through training and educating personnel, encouraging transparency and seeking the financial soundness and stability needed for the institution's continuous growth.

VII. VANGUARD INFRASTRUCTURE

Modern and sustainable facilities with equipment and technological tools needed for optimal teaching, research, cultural, sports, outreach and administrative activities.



ACCREDITATIONS

Universidad de las Américas Puebla offers quality study programs of academic excellence through its faculty of 300 full time professors. 95% of them have graduate degrees, and 4 out of 10 are members of the National System of Researchers.

UDLAP aims its efforts to deliver a high level educational service, through an integral formation of its students in a multicultural environment based on respect and international cooperation.

All study programs have an Official Study Certification (RVOE) granted by the Secretary of Public Education and are recognized by different universities in Latin America, Europe, and the educational system of the United States.

Our students may study part of their program abroad for an enriched experience, or carry out professional practices in other countries, thus broadening their field of study or professional development.

In addition, study programs have the accreditation of CO-PAES (Council for Higher Education Accreditation), and CIEES (Inter-institutional Committee for Higher Education Evaluation), as well as other international accreditations.

1 SACSCOC



Fundación Universidad de las Américas, Puebla is accredited by the Southern Association of Colleges and Schools - Commission on Colleges to grant bachelor, master and doctoral degrees. You may contact the Commission on Colleges by mail (1866 Southern Lane, Decatur, Georgia 30033-4097, USA), or by phone (+1-404-679-4500) to request further information on the accreditation of Fundación Universidad de las Américas, Puebla.

Student Achievement at UDLAP

2 FIMPES

Fundación Universidad de las Américas, Puebla, through its Institutional Development Office, has retained a status of outright accredited and affiliated university before the FIMPES's system of acceptance and permanence for its campus on Ex Hacienda Santa Catarina Mártir, 72820 San Andrés Cholula, Puebla.


Accreditations for Academic Programs

3 ACCREDITATIONS BY THE ACCREDITATION COUNCIL FOR HIGHER EDUCATION (COPAES)


	Accredited Programs
Accreditation Council on Teaching of Accounting and Administration, C.A. CACECA 	Business Administration Marketing International Business Administration Financial Strategies and Public Accounting Information Technology Administration
National Accrediting for Programs in Architecture and Living Space Disciplines, C.A. ANPADEH 	Architecture Interior Architecture
Accreditation Board of Engineering Education, C.A. CACEI 	Food Engineering Industrial Engineering Electronics Engineering Chemical Engineering Mechanical Engineering Mechatronics Engineering Civil Engineering Computer Systems Engineering
National Council for Psychology Education and Research C.A. CNEIP 	Clinical Psychology Organizational Psychology

	Accredited Programs
National Council of Education and Professional Practice for Chemical Sciences C.A. CONAECQ 	Clinical Biochemistry Nanotechnology and Molecular Engineering
Accreditation Council of Communication C.A. CONAC 	Communications Sciences
Accreditation and Certification Association for Social Sciences, C.A. ACCECISO 	Cultural Anthropology Political Science Educational Innovation International Relations Multicultural Relations
National Council for Tourism Education Quality CONAET 	Hotel and Restaurant Administration Culinary Arts
Committee on Accreditation and Certification for Biology Degrees, C.A. CACEB 	Biology
Mexican Accreditation Council for Pharmaceutical Education, C.A. COMAEF 	Pharmaceutical Sciences



	Accredited Programs
<p>Mexican Accreditation Council for Design Programs, C.A. COMAPROD</p> 	Visual Information Design
<p>Accreditation Council for Legal Education, C.A. CONAED</p> 	Law
<p>Accreditation Council of Higher Education for the Arts, C.A. CAESA</p> 	Dance Music Theater Fine Arts
<p>Accreditation Council of Humanities Educational Programs COAPEHUM</p> 	Art History Humanities Languages Studies Literature
<p>National Accreditation Council of the Economic Science, C.A. CONACE</p> 	Banking and Investments Economics
<p>Accreditation Council of Educational Programs in Physics, C.A. CAPEF</p> 	Physics

	Accredited Programs
Mexican Accrediting Council of Medical Education, C.A. COMAEM 	Medical Surgeon


4 ACKNOWLEDGE OF GOOD QUALITY PROGRAMS BY THE INTERINSTITUTIONAL COMMITTEES FOR THE EVALUATION OF HIGHER EDUCATION (CIEES)

	Evaluated Programs
Interinstitutional Committees for the Evaluation of Higher Education CIEES 	Actuarial Sciences

5 INTERNATIONAL ACCREDITATIONS

	Accredited Programs
Institute Food Technology IFT 	Food Engineering
Accredited by the Engineering Accreditation Commission of ABET ABET 	Civil Engineering Industrial Engineering Mechanical Engineering Mechatronics Engineering

6 GRADUATE PROGRAMS ACCREDITED BY THE NATIONAL COUNCIL OF SCIENCE AND TECHNOLOGY (CONACYT)

	Accredited Programs
National Council of Science and Technology CONACYT 	PhD program in Creation and Culture Theories



FACULTY

Name	Position
Martha Laura Ramírez Dorantes	Dean of the School of Arts and Humanities
José Daniel Lozada Ramírez	Dean of the School of School of Science
Raphael Steger Cataño	Dean of the School of School of Social Sciences
José Ángel Raynal Villaseñor	Dean of the School of School of Engineering
Howard Stanley Hart	Dean of the School of School of Business and Economics
Laurence Le Bouhellec	Academic Director, Representative of the School of Arts and Humanities
Cristina Goletti	Academic Director, Representative of the School of Arts and Humanities
Juan Manuel Bada Dosal	Representative Professor of the School of Arts and Humanities
José Luis Cortés Santander	Representative Professor of the School of Arts and Humanities
Alejandro Porras Bojalil	Academic Director, Representative of the School of Science
Antonio Vicente González Fragoso	Academic Director, Representative of the School of Science
Guillermo Aurelio Romero Meléndez	Representative Professor of the School of Science
Roberto Carlos Mares Morales	Representative Professor of the School of Science
Laura Elena Romero López	Academic Director, Representative of the School of Social Sciences
Judith Cruz Sandoval	Academic Director, Representative of the School of Social Sciences
Kira Ciofalo Lagos	Representative Professor of the School of Social Sciences
Víctor Manuel Reynoso Angulo	Representative Professor of the School of Social Sciences
Carmen Xóchitl Flores Mendoza	Academic Director, Representative of the School of Engineering
Benito Corona Vásquez	Academic Director, Representative of the School of Engineering
Carlos Patiño Gómez	Representative Professor of the School of Engineering
José Luis Vázquez González	Representative Professor of the School of Engineering
Elitania Leyva Rayón	Academic Director, Representative of the School of Business and Economics
Einar Moreno Quezada	Academic Director, Representative of the School of Business and Economics
Héctor Montiel Campos	Representative Professor of the School of Business and Economics
Viórica Balint Gergely	Representative Professor of the School of Business and Economics

INTEGRAL DEVELOPMENT OF THE STUDENT

LIBRARY DEPARTMENT MISSION

We are an interdisciplinary department that wants to satisfy the community's academic information needs, providing services in facilities that were specially built to contribute to professional, critical, creative and innovative learning.

The Library Department is the result of the evolution of the community's information needs, as it is more common for members to use digital tools for their activities, especially those available through Information and Communications Technologies (ICT).



INTERNATIONALIZATION

Studying abroad provides students with competitive advantages and intercultural abilities that translate into numerous and immediate long-term opportunities, both at a personal and professional level.

Since every exchange program is different, we recommend that students choose a faculty or university that better suits all their needs, including that of studying abroad. The sooner you consider studying abroad, the more options you'll be able to research.

Studying abroad can help a student to:

- Develop a global vision that is needed to face local and international challenges.

- Understand different cultures and solve problems when in a foreign environment.
- Be aware of different points of view and ways of thinking in the world.
- Improve language skills.
- Increase confidence, personal responsibility, and autonomy.
- Optimize professional opportunities.

INTERNATIONAL EXCHANGE PROGRAMS

*Restrictions Apply

When and how do I apply?

	Bachelor	Graduate Program
Minimum number of approved units on your transcript	90	16
Cumulative GPA	8.0	8.0
Regular academic and disciplinary status	X	X
Read the Exchange Manual	X	X
Go to the information session	X	X
Not have university debts	X	X

Basic Requirements:

PREPARATION SESSION

- The first step to start your exchange application process is to attend a preparation session a year before you plan to go to a foreign university.
- The preparation sessions are designed to introduce you to the exchange process, and give you the tools you need to start your selection of universities in which you wish to study.
- You must go to these sessions, as you will be assigned an electronic folio to continue with the process.

TO GO ON AN EXCHANGE PROGRAM.

- Go to the information sessions two semesters before you wish to go on an exchange program.
- Review the suggested university list for your major.
- Confirm, in the current call, that your two university options are available.
- Hand in your language certificate, showing that you have the required level to apply to your selected universities.

- Research the study programs at your two selected universities.
- Write, in conjunction with your Department Head, the course pre-selection memorandum.
- Deliver the first and second requested documents, per the dates on the checklist.
- Follow-up your Academic Exchange process.
- Wait for your acceptance letter
- Go to the pre-departure meeting, where you will receive information on the final details before you go.
- When you return make sure to transfer the course credits you approved during your exchange program.

*Restrictions apply

DUAL PROGRAMS

*Restrictions Apply

INFORMATION SESSION

The first step to start your dual program application is to attend the information session a year before the semester in which you wish to leave.

The preparation sessions are designed to give you an introduction to the dual program process, and provide you with the necessary tools to select the universities in which you wish to study.

You must go to these sessions to continue the process. Keep informed about the session dates through UDLAP Informa, Facebook and the calendar on the webpage.

STEPS

You are about to begin a simple process that requires commitment and planning. The final result will be to live one of the best and most memorable experiences of your life. It is up to you to successfully complete this new challenge!

STUDENT ACTIVITIES

Their objective is to promote participation, integration, and recreation, complementing your integral development in the university community. This office constantly works to offer our students a wide range of activities in a healthy and safe environment, through academic and cultural trips, visits to businesses, bike tours, and a cinema club that offers films notable for their artistic quality and various themes.

SOCIAL COMMITMENT

The Greeks taught us that passion could be nonsense without exercising prudence and restraint; that is to say, responsible passion.

The new learning theories propose that it is not sufficient for a student to attend class and receive information: knowl-

edge is no longer transferred, it is built jointly; it is not a professor and a student but a learning community. It is through sharing university life that knowledge is built. At Universidad de las Américas daily life is also a learning constant.

Our students attend not only to acquire information but to establish a citizen's ethics: humanist and tolerant, of leadership and success. Because of this, our campus generates a life ethic. The origin of the word "Ethics" is "House", that is, the urban space affects the citizen's attitudes: a harmonious, ecological campus that debates a complex reality and is agreeable to forming wholesome students.

One of the strategic objectives of UDLAP is to be recognized at a national and international level for its innovative characteristics to contribute to equal opportunity. This results especially from its scholarship program and its social work in backing the development of the community and underprivileged sectors.

We have an important financial aid program. Also, we offer the intellectual capital of our professors, researchers, and students to promote social benefits for our environment, working jointly with municipal, state, and federal governments, as well as with international organizations. Likewise, we make great efforts to offer economic resources and infrastructure to the least protected sectors.

SPORTS AND CULTURE

UDLAP, through the Sports Department and with excellent sports facilities, offers its community the areas necessary for physical, sports and recreational activities.

On Campus

- 7 floodlit tennis courts.
- 4 natural grass soccer fields.
- 1 floodlit synthetic grass football field.
- 2 floodlit outdoor courts for basketball, volleyball or multipurpose sports.
- 2 football fields.
- 1 gym, with strength and aerobic equipment.
- 1 baseball field.
- 1 floodlit futsal field.
- Floodlit running track.
- Heated short course swimming pool.
- Indoor gym with basketball and volleyball courts, with a seating capacity of 1,850 spectators.

In 2009, the Mary Street Jenkins Foundation generously granted part of the building to Universidad de las Américas Puebla to convert it into a cultural space that opened its doors to the public as the UDLAP Art Chapel.

Located in a prime location, the Chapel of Art is the cultural space for Universidad de las Américas Puebla (UDLAP). Its purpose is to exhibit art to the public, and create aesthetic experiences for the people who visit it. It is also a place for a dialogue between art disciplines, such as music, cinema, theater, dance, literature and visual art.



We currently have weekly, continuous and free exhibits, to enjoy the works of Mexican and international artists. In our art gallery, our exhibits are well known for their museography, due to its hanging and movable walls, which create a chic environment inside an early 20th century loft that has steel columns, wood floors and large windows.

In our stage you can choose to go to a contemporary music concert or chamber music concert on Wednesdays. On Thursdays there are Art and Coffee sessions with guest speakers, and on Fridays there is art cinema. On the weekends, the entire family can join us for theater and story telling. Finally, we promote literature through our reading space with more than 80 titles and almost 200 copies that can be perused at your leisure inside our facilities.

At a 100 years old, the building was originally designed for one of the most exclusive department stores of the era, which had "clothes and novelties for good living from the Old Continent". The building has been revitalized through different art, music, dance, theater, cinema and literature programs that provide "Art and Culture for good living", from one of the most important universities in Mexico for Puebla's society to enjoy.

UDLAP and the Franciscan Order of Mexico, in order to preserve the bibliographical heritage of one of its convents, and to provide a space to conserve and study it, have joined forces to create the Franciscan Library. Located in the Portal of Pilgrims of the St. Gabriel Convent in downtown San Pedro Cholula, this library has over 25,000 volumes of works published between the 16th and 19th centuries.

The topics are mainly religion, theology, philosophy, science and art, and are mostly in Spanish and Latin. The Franciscan Library also has the Historical Archive of the Franciscan Order.

ADMISSIONS

ENTRANCE EXAM

TAKE YOUR ENTRANCE EXAM

- Register to take your entrance exam on campus, or review the dates when we will visit your city.
- Know the entrance exam dates and review the guide to take the exam.

PRE- ENROLLMENT

FIRST DELIVERY OF ADMISSION DOCUMENTS

Once you have passed your entrance exam, you can continue with the admission process and obtain a student number. For this, you must fill out the application for new admission, and provide a copy of your birth certificate or CURP, as well as your high school's original transcript, or equivalent, with cumulative GPA. Know the process for the first delivery of documents.

LICENCIATURAS WITH ADDITIONAL ADMISSION REQUIREMENTS

Consider that if you want to study licenciaturas in International Business Administration, Dance, Medical Surgeon, or Nursing there are additional requirements you have to meet. Review here the additional requirements for admission.

MAKE YOUR FIRST PAYMENT AND YOU WILL RECEIVE YOUR CLASS SCHEDULE

- Pay for 6 units (where applicable).
- During the early enrollment period you will receive your class schedule.

IF YOU WANT TO LIVE ON CAMPUS, WE HAVE A PLACE FOR YOU

The Residential Colleges are an option to live on campus; learn how to reserve your room. See here the Residential Colleges.

COURSE EQUIVALENCE

This is the administrative act in which SEP declares that studies carried out within the National Education System are comparable.

COST

2 units for each validated course (at current costs).

REQUIREMENTS

Licenciatura

- University of origin study program duly sealed.
- Syllabus of each course duly sealed.
- Partial study certificate from the university of origin - legalized (original).
- Minimum GPA of 7.5 or 75.

Graduate Studies

- University of origin study program duly sealed.
- Syllabus of each course duly sealed.
- Partial study certificate from the university or origin - legalized (original).
- Minimum GPA of 8.0

Document Reception

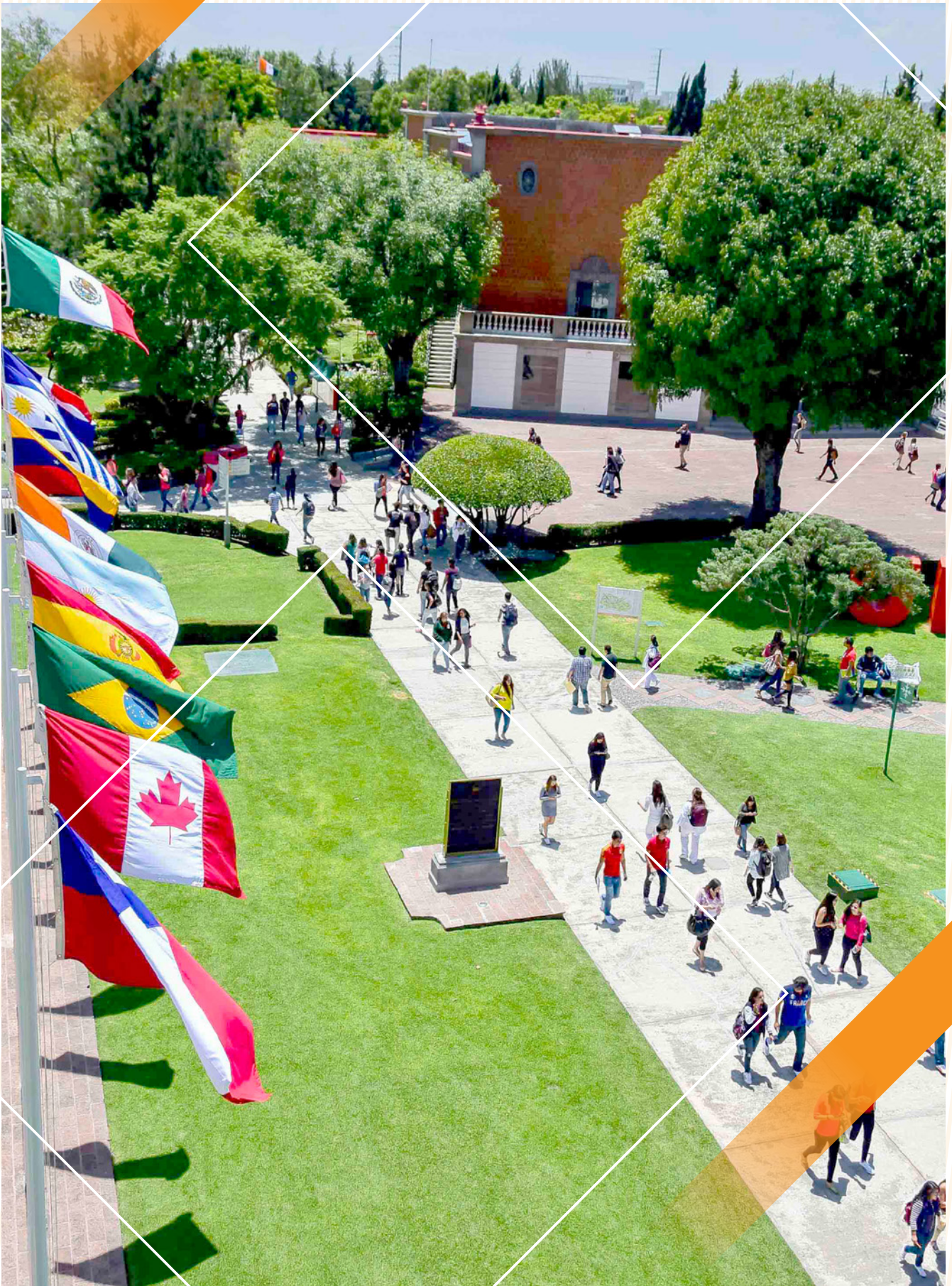
- Fill out the study equivalence or revalidation application in the School Services Office, module 10 in the equivalencies and revalidation coordination.
- Present the necessary documentation during the first 20 days after school starts to carry out the process before SEP.
- To start the process, you must cover 50% of the cost, equivalent to 2 units per course to validate.

Document Delivery

Depends on the resolution by the education authorities.

Comments

The student will be notified by email to pay the remaining 50% of the process cost when it has been resolved.



SCHOOL CALENDAR

YOU CAN CONSULT OUR SCHOOL CALENDAR IN THE FOLLOWING LINK:
[HTTP://WWW.UDLAP.MX/CALENDARIO/DEFAULT.ASPX?IDIOMA=2](http://www.udlap.mx/CALENDARIO/DEFAULT.ASPX?IDIOMA=2)

FINANCIAL INFORMATION

TUITION AND FEES

REGISTRATION PAYMENT FOR UNDERGRADUATE, MASTER, AND DOCTORATE

Payment Concept	Cost Mexican pesos
Tuition Advance	
Undergraduate , six units	\$15,480
Onsite Master's by Semester, six units	\$19,080
Onsite Master's by Trimester, four units	\$12,720
Online Master's, four units	\$9,640
Doctorate, six units	\$20,520
Health insurance, coverage by semester does not apply to residential college students	\$2,680
One-time admission fee**	\$10,240
Medical exam** Pay at UDLAP Unicaja	\$1,210

IMPORTANT: When using Banorte, you must make the advance tuition payment two working days before the registration date. Payments made at BBVA Bancomer, HSBC, Banamex, and Santander will appear in the Account Statement 30 minutes after the deposit is made.

** Fees exclusive for new students.

- Information valid for Autumn 2017.
- Payments are non-refundable and subject to change without notice.
- The student must pay the "SEP fee" that the Secretary of Public Education establishes.
- New student registration must follow the valid guidelines.

SCHOLARSHIPS

It is essential to deliver your scholarship application on the dates established in this call, and enroll in the "initial enrollment" period according to the academic term (August 2017). It will be taken into consideration if you meet the requirements; otherwise you will not receive any benefits.

Under no circumstances will late applications be accepted.

These are economic benefits that are given to students who request them, considering your academic, sports or artistic performance. These scholarships provide no economic retribution to UDLAP, as they are not credit-based.

Students are obligated 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 your scholarship.

TYPES OF SCHOLARSHIPS

ACADEMIC

Requirements

- GPA: 8.5
- Entrance Exam: 1200
- Pay a socio-economic study

AGREEMENT HIGH SCHOOLS

Benefits if you meet the established requirements.

SPORTS

Specific process to become a part of UDLAP's Sports Representative Teams. For more information, please contact the Sports Department:

Building GB, Office 207
(222) 229 23 78 and (222) 229 23 82
reclutamiento.aztecas@udlap.mx

STRATEGIC PARTNERS AGREEMENT

Benefits if you meet the established requirements

- Associations
- Chambers
- Companies
- Financial Institutions
- Government

CHILDREN OF UDLAP ALUMNI

Benefits if you meet the established requirements.

ARTISTIC

Specific call (enrollment in Fall 2017) to be a part of UDLAP's Cultural Representative Teams.

Information:
Building CI, Office212
(222) 229 31 55
equipos.culturales@udlap.mx

Note: The benefits of this call are part of the required 5% of all enrolled students who must have a scholarship, in accordance with the Secretary of Public Education's regulations regarding programs that have Official Study Validity (Reconocimiento de Validez Oficial de Estudios - RVOE).

STUDENT LOANS

BENEFITS:

- Fixed annual rate and flexible payment plan
- No property guarantee
- Up to 10 years to pay and 8.5 for graduate studies
- While you study you only pay interest
- Easy contracting and quick response

Important: UDLAP does not participate in any way in this financing alternative.

REIMBURSEMENTS

PROCEDURES AND DATES

If you have a credit balance on your account, you can request that it be reimbursed as long as the balance is due to overpayment.

In order to receive your reimbursement, you must go to the Unicaja at the Treasury Department, located in building 1 office 109 to provide the necessary documentation. You can do this from June 5 to 9 2017 for the SUMMER2017 period, from 9:00 to 12:00.

THE COMPLETE PROCEDURE IS:

1.Reimbursement application, that must meet the following requirements:

- Letter addressed to the Treasury Department, specifying the reason why there is a balance.
- Ask for a Reimbursement Application form, (only the shaded lines, also available at the Unicaja)
- Copy of official ID (voter ID or passport); bring the original for verification.
- In case of reimbursements greater than MX\$20,000.00 you must present an authorization letter from the parent or tutor, copy of his/her official identification and telephone number.
- In case of reimbursements greater than \$100,000 Mexican pesos, an original of resources letter must be properly filled and handed in.
- If the student cannot go to the offices in person, the person who is his/her representative must present a proxy letter, and copy of official identification of the student and the person who will act as proxy.

2. Reimbursement.

- Once the reimbursement has been authorized and after a maximum term of 15 working days, the student may go to the Payment Desk to receive the money. This is located in building 1, Office 109, open from 8:00 to 13:00 and 15:00 to 16:00.
- If your reimbursement amount is for less than the equivalent of a licenciatura unit, it will be given to you in cash. You need to bring your ID to receive it.
- For greater amounts than those mentioned above, you will be given a non-negotiable registered check, which you must deposit in a bank account under your name in order to cash it.
- If you cannot pick up your reimbursement personally, you can request it to be deposited to a bank account under your name. Please note a copy of your billing record will be needed.

IMPORTANT INFORMATION TO REQUEST REIMBURSEMENT

- If the balance is due to the application of study units (UDES) or future student units (UFES), the reimbursement will be penalized with a 10% fee for administrative charges.
- Your reimbursement will not proceed if it is due to scholarships, loans, or lottery incentives.

WITHDRAWAL FROM UDLAP

In case of temporary or permanent withdrawal from UDLAP, the student must cover the tuition costs for the registered period, unless they withdraw within the specified dates. The withdrawal process must be made at the Registrar's Office.

The number of days to determine the waiver percentage starts on the first official day of classes of the academic period and ends on the date in which Registrar's Office receives the information to start the withdrawal process.

Semester Program		Trimester and Summer Program	
Days	Waiver Percent	Days	Waiver Percent
From 1st to 5th	100%	From 1st to 2nd	100%
From 6th to 10th	70%	From 3rd to 5th	70%
From 11th to 14th	40%	From 6th to 7th	40%
From the 15th day	0%	From the 8th day	0%

- * Applies only to tuition.
- * New students must abide by the current guidelines.

REGULATIONS FOR LICENCIATURA AND GRADUATE STUDENTS

The regulations establish the main guidelines that must be followed by all students of Fundación Universidad de las Américas, Puebla, to coexist and have a respectful and collaborative environment that fosters your personal and professional growth and is congruent with the university's mission. UDLAP students have the obligation to always act responsibly to achieve an integral formation and academic excellence.

To consult the regulations, please visit:
<http://www.udlap.mx/servicios Escolares/normatividad.aspx>

CODE OF ETHICS

The purpose of this Code is to understand the ethical principles with which the university community members must govern their behavior, in order to achieve the objectives of the university's mission statement, seeking excellence through education, dissemination of knowledge and promotion of culture.

We invite you to consult it at:
<http://portafolios.udlap.mx/departamentos/normatividad/Documentos%20compartidos/C%3%B-3digo%20de%20%3%89tica%20UDLAP.pdf>

GRADUATION PROCESS

DEFINITION

This is the process by which a student meets the requirements established to obtain from the university the following:

- Licenciatura Diploma
- Specialization Diploma
- Master or Graduate Degree
- Bachelor, Advanced Certificate, Master or Doctorate Diploma

GRADUATION REQUIREMENTS

If you are a candidate for graduation or are renewing your application, we recommend you download the procedure in order to carry out the process in a timely manner.

STEPS:

Compare your Study Program progress:

- Study programs from 2006 or before; all programs in the Health areas, Master in Education and Doctoral programs:
- Choose your graduation method
- Study programs registered in 2012: Automatic Graduation

Verify your Social Service (only Licenciatura)

Hand in your Graduation Application, proof of payment of your Graduation Fee (\$14,800.00), and photographs (1st stage, the details will be sent to your university email)

Add, if necessary, the documentation required as determined by the School Services Evaluation

Not owe anything to: Tuition, UDLAP Lottery, Library, Labs, Scholarship Service Hours

Receive an appointment notification for:

- Delivery of photographs (2nd stage, details will be sent to your university email)
- Sign your degree and professional license application
- Answer the Student Satisfaction Evaluation

ALUMNI

The Alumni Department is charged with maintaining contact with the over 30,000 UDLAP alumni, the largest university community. Graduates are a fundamental part of our community, as they represent UDLAP in the job market, and provide new professional and social networks that promote the university's position.

The Alumni Outreach office works with other UDLAP areas to receive suggestions from graduates and the general public. We focus on providing a service to university licenciatura and graduate alumni.

We want to strengthen, consolidate and stimulate the relationship with UDLAP alumni, encouraging their integration and sense of belonging to promote their professional and per-



sonal development.

We advertise the benefits of being an UDLAP alumnus and are the liaison between graduates and the university. We update the information about our graduates' work and activities, encouraging their participation in events or in writing articles for our research magazine (Contexto) or in our community publication (Visión ExaUDLAP, Legado, among others).

VISIÓN EXAUDLAP MAGAZINE

Visión exaUDLAP is the culmination of the university's efforts to have a yearly publication that includes our graduate's most important topics and activities.

The prestige of all universities comes from their graduates; they are who, through their actions, reflect the result of the university's work and effort. As a Universidad de las Américas Puebla alumnus, you have the commitment to strengthen what during generations has distinguished us: graduates with critical thinking who can face the global environment and be competitive. We reach out to graduates and connect them to build a community. Being an exaUDLAP means being an active part of the university community, since having graduates close strengthens and contributes to the consolidation of our university, and, consequently, to transforming our country.

UDLAP will continue to work hard to make our alma mater a center of integral development, shaping young people and training them to be critical individuals who are a benefit to their immediate social context.

We reiterate our interest in having you close to your university, and invite you to participate in the different spaces we have. We appreciate your enthusiastic participation to make the magazine possible, and for allowing us to share with you the accomplishments, successes and challenges of the alumni community.



ACADEMIC PROGRAMS

**SCHOOL OF ARTS
AND HUMANITIES**

ARCHITECTURE

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LAI1011 CONCEPTS AND ARGUMENTS (*)

At the end of this course, the student will be able to define and identify basic concepts of architectural design and to use them in elementary spatial exercises and their graphic representation, with emphasis on the creative process, applying the design methodology offered by the department.

LAR1011 GEOMETRY AND SPACE

At the end of this course, the student will be able to identify features and ways of handling geometrical figures and surfaces that define the architectural space and object. The student will be able to depict them in various projection modes.

LAR1021 METHODOLOGY FOR INTEGRAL DESIGN

At the end of this course, the student will be able to interact with different theories and tools in the framework of a comprehensive strategy aimed towards producing a sustainable architectural design.

LAR1031 ARCHITECTURAL DRAWING I

At the end of this course, the student will be able to handle space and form through architectural drawing. Additionally, he/she will be able to defend his/her own designs with the help of sketches to represent concepts used, and to apply conventions of architectural drawing to communicate his/her design ideas.

LEXO111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LAI1031 SPATIAL MODELS

At the end of this course, the student will be able to define and identify the basic elements, concepts, and purposes of an architectural design, applied to a specific context and user to build simple spatial models, using design methods provided by the department.

LAR1041 MODELS

At the end of this course, the student will be able to build models, both manually and digitally, as part of the concept of conceiving, developing and analyzing an architectural project.

LAR1051 GEOMETRY AND REPRESENTATION TECHNIQUES

At the end of this course, the student will be able to depict graphically an architectural space, using basic techniques in architectural and interior design projects, and to explore form and space through perspective.

LAR1061 INTRODUCTION TO CONSTRUCTION

At the end of this course, the student will be able to: identify the terrain as a basic element to take into account in architectural design, approach environmental conditions of the terrain to achieve an adequate integration of the architectural design with its natural and constructed setting, and establish different legal and regulation guidelines that overlook the land use possibilities.

LEXO121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1021 MATH I

At the end of this course, the student will be able to use basic algebraic concepts, setting up and solving equations that represent problems involving percentages and interest rates. Also, the student will use trigonometric tools to solve geometric problems.

THIRD SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAR2011 BUILDING MATERIALS

At the end of this course, the student will be able to: identify building materials, identify various alternatives to use at different construction stages, and establish selection criteria for suitable materials and building elements.

LAR2021 ARCHITECTURAL DRAWING II

At the end of this course, the student will be able to visually and graphically represent architectural and interior design

projects using computer programs such as AutoCAD and Architectural or their equivalent. Additionally, he/she will be able to relate the objectives of architectural representation with their structural and constructive counterpart.

LAR2031 STRUCTURAL PRINCIPLES

At the end of this course, the student will be able to understand the underlying structural logic of different systems through case analysis, identifying how a structure holds up, the typological and formal properties that give it integrity, as well as the way in which they absorb and transfer forces in a housing project.

LAR2041 PRIVATE SPACES AND DOMESTICITY

At the end of this course, the student will be able to define and identify elements and concepts of his/her habitat to generate proposals of domestic architectural spaces that closely reflect its reality, using a particular design methodology indicated by the department.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

FOURTH SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAR2051 ENVIRONMENT AND PUBLIC SPACES

At the end of this course, the student will be able to understand the role that public spaces play in the quality of life of people and their relationship with urban landscape, considering current local and international rules to build urban architectural and landscape projects that answer to contemporary city problems.

LAR2061 DIGITAL SIMULATION

At the end of this course, the student will be able to represent, explore, and promote architectural and interior design projects through digital means in three-dimensional modeling.

LAR2071 STABILITY

At the end of this course, the student will be able to find principles and conditions for equilibrium, using free body diagrams and formulating equilibrium equations in two and three dimensions.

LAR2081 URBAN STRUCTURE

At the end of this course, the student will be able to explain a project's relationship with architecture and its close envi-

ronment, through the analysis of landscape and existing regulatory criteria.

LIC1011 CONSTRUCTION MATERIALS LAB

At the end of this course, the student will be able to identify and differentiate the main mechanical properties of the most important materials in construction, establishing a link between the materials and their relevance in construction and quality control.

LIC1051 CONSTRUCTION PROCEDURES

At the end of this course, the student will be able to know the processes and procedures used in construction, identifying the different construction stages, and selecting the most adequate methods and elements for construction, according to a chronological and procedural logic.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LAIB031 ARCHITECTURAL COMMUNICATION

At the end of this course, the student will be able to select, handle and apply techniques and tools of digital and manual representation that are adequate for the elaboration of graphic, audio-visual, and digital materials to foster communication, presentation and promotion of architectural and interior projects.

LAQ3061 PRE-HISPANIC ART AND ARCHITECTURE (*)

At the end of this course, the student will be able to: identify the different styles in terms of time and space, generate a specific and detailed vision of symbol systems used by different cultures in pre-Hispanic Mesoamerica, including the development of regional and international styles, historic meaning of traits and political and religious ideology, and distinguish the intellectual history from the study of pre-Hispanic art.

LAR3011 URBAN OUTFITTING

At the end of this course, the student will be able to establish the role of cultural, urban, commercial, school, health and special outfitting present in cities and area units for sustainable urban architectural projects, taking into consideration environmental quality and effects on people.

LAR3021 MATERIAL MECHANICS

At the end of this course, the student will be able to analyze, calculate, and graph structural elements in a stress system, in

agreement with properties and characteristics of plane sections. The student will be able to deduce various internal structural effects within allowed parameters for a specific material.

LAR3031 BASIC INSTALLATIONS

At the end of this course, the student will be able to establish the importance of electrical, water, sewage and gas installations as service networks that make an architectural project work. He/She can identify features and constraints of each type of installation and master the calculation methods, and the most adequate ways to integrate installations in a project.

LAR3041 CLASSICAL ARCHITECTURE

At the end of this course, the student will be able to interpret design in Western architecture, regarding interior and exterior elements, from the origins of classical architecture through the Illustration.

SIXTH SEMESTER

LAI4031 SPACE CONDITIONING

At the end of this course, the student will be able to identify necessary conditions for environmental comfort inside an architectural space, and to identify optimal solutions for an architectural project, regarding climate, acoustic, security and lighting conditions.

LAR3051 THE CITY

At the end of this course, the student will be able to analyze the relationships between global processes, the city and architecture, through the knowledge of various city models, built up areas and portions of the city; and the sustainability processes, public policies and emerging professional fields in architecture and urban practice.

LAR3061 MEXICAN ARCHITECTURE

At the end of this course, the student will be able to explain architectural solutions used in Mexican architecture between the 16th and 19th century, relating them to the influence of weather, society, economy, politics and culture

LAR3071 CONSTRUCTION WORKSHOP

At the end of this course, the student will be able to itemize correctly, materials and processes in an executive project. The student will also be able to represent graphically a complete project's proposal, including its main elements and building processes.

LAR3081 STRUCTURAL ANALYSIS

At the end of this course, the student will be able to analyze and quantify various mechanical elements that make up a basic structural system.

LAR3091 GLOBALIZATION AND ADAPTATION

At the end of this course, the student will be able to analyze and understand various cultural contexts to face globalization, and to propose urban and architectural solutions to respond to changing demands of contemporary societies, using the design methodology indicated by the department.

SEVENTH SEMESTER

LAR4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply the acquired abilities to solve real architectural design problems, under an architect's supervision in architecture and construction firms or public sector offices.

EIGHTH SEMESTER

LAR4021 CONSTRUCTION COSTS

At the end of this course, the student will be able to use cost project methodology in architecture, and to master different elements of this process, identifying the main manual and automated systems to elaborate a budget.

LAR4031 SENSITIVE ENVIRONMENTS

At the end of this course, the student will be able to understand the vulnerability of certain environments, analyzing their problems and evaluating their potential in order to generate responsible architectural and landscape proposals, using the design methodology indicated by the department.

LAR4041 SPECIAL INSTALLATIONS

At the end of this course, the student will be able to identify and analyze existent elements in an architectural project that provide energy savings, security and comfort for their occupants. The student will also identify and approach automated applications that may be incorporated to architecture.

LAR4051 DESIGN IN CONCRETE

At the end of this course, the student will be able to develop and apply design criteria for the plastic method of reinforced concrete, following the Technical and Complementary Norms of the Code of Laws for Constructions in Distrito Federal. He/She will be able as well to calculate the main structural elements of reinforced concrete, such as beams, columns, slabs and footings, trying to keep a low cost structure, but within safety and economic constraints, fulfilling at the same time the aesthetic requirements of the building.

LAR4061 MODERN ARCHITECTURE

At the end of this course, the student will be able to explain the ideology, methodological proposals and building techniques of the modern movement in architecture.

LAR4071 ARCHITECTURAL HERITAGE

At the end of this course, the student will be able to appreciate a built environment's worth and to propose interventions to foster their potential.

NINTH SEMESTER

LAR4081 EMERGING GENERATIVE CODES

At the end of this course, the student will be able to understand the problems of environmental degradation and their effects on our planet in order to generate sustainable architectural models and proposals, using the design methodology indicated by the department.

LAR4091 CONSTRUCTION PLANNING AND CONTROL

At the end of this course, the student will be able to master various planning and control tools for construction and to identify a planning process as a fundamental part of architectural construction. The student will also be able to understand it in terms of cost and time, as a valuable element in decision making.

LAR4101 CONTEMPORARY ARCHITECTURE

At the end of this course, the student will be able to understand some of the contemporary project theories, such as the causes of the pluralism characteristics of present day architecture.

TAR4011 ELECTIVE COURSE I

At the end of this course, the student will be able to identify the emerging fields of study of architecture and urbanism.

TAR4021 ELECTIVE COURSE II

At the end of this course, the student will be able to identify the emerging fields of study of architecture and urbanism.

TENTH SEMESTER

LAR4111 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to master all knowledge acquired during his/her studies and to use it independently to solve actual design and architectural building problems, establishing a link between theory and practice, university and society, his/her own aspirations and the requisites of the environment.

LAR4121 REAL ESTATE PROMOTION

At the end of this course, the student will be able to identify various disciplines related to production and real estate promotion. The student will understand that it is an entrepreneurial activity inherent to architecture, and to establish its relation to the growth of the city.

LAR4131 ARCHITECTURE THEORY AND CRITIQUE

At the end of this course, the student will be able to use critical thinking and knowledge of trends in modern epistemology to support, through an essay, an intellectual posture in the evaluation of architectural works.

TAS4031 ELECTIVE COURSE III

At the end of this course, the student will be able to relate the knowledge of his/her field of study with the most current theories and points of view regarding art and culture.

ART HISTORY AND CURATORSHIP

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHC1011 ART AND ITS DISCOURSES I

At the end of this course, the student will be able to master the particulars of socio-cultural context that led to the invention of art in the West. The student will describe the specific problems in the construction of art discourse and art before, during and after art. The student will master the problems of categories in art discourse and about art.

LHC1021 CLASSICAL ANTIQUITY

At the end of this course, the student will be able to discern the basic theoretical and methodological elements to identify intrinsic values in great works of architecture, sculpture and painting, as well as the minor arts of antiquity. The student will link their relationship with other manifestations of human activity.

LHC1031 FIRST ARTISTIC DEMONSTRATIONS

At the end of this course, the student will be able to explain the problems of art in its Western origins mainly, and go over and discuss different theories that explain the emergence of art as well as its possible meaning. The student will establish plastic and formal connections with certain kinds of contemporary art.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHC1041 ART AND ITS DISCOURSES II

At the end of this course, the student will be able to understand the socio cultural context that led some European philosophers to the construction of a specific reflection around particular objects that constitute art, beginning in the 18th century. The student will understand some of the more salient postures of these discourses reused throughout the 20th century by artists to base their ideas and to defend their plastic proposals.

LHC1051 MEDIEVAL ART

At the end of this course, the student will be able to discern the basic theoretical and methodological elements to identify intrinsic values in great works of architecture, sculpture and painting, as well as the minor arts of the Middle Ages and to link their relationship with other manifestations of human activity.

LHC1061 ART AND SIGN

At the end of this course, the student will be able to delve into the study of the relationship between artistic practice and different concretions and media from a historical perspective—considering the implication of the use of classical materials up to de-objectification and recent digital media—from a thematic perspective, and as a key element to understand the change of paradigm characteristic of contemporary cultural production.

LHE1021 CULTURE THEORIES

At the end of this course, the student will be able to critically analyze the main cultural manifestations of the 20th century (music, writing, verbal, audiovisual and digital) in order to establish, with special regard to syntax traits, a typology that clusters different varieties of such manifestations.

LIV1051 DEVELOPMENT OF VISUAL CULTURE

At the end of this course, the student will be able to understand visual culture as an area that includes demonstrations of art history and graphic and industrial design, which range from pop culture to cinematic aspects running through conceptual, urban and contemporary art.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAP2021 BASIC TWO-DIMENSIONAL WORKSHOP

At the end of this course, the student will be able to develop techniques to represent images and objects in different spatial views, applying color theory and various composition forms in basic two-dimensional techniques for the effective portrayal of space in a pictorial context.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHC2011 RENAISSANCE ART

At the end of this course, the student will be able to appreciate the changes that occurred in socio-cultural environments and in aesthetic thought, and to know intrinsic values in great works of architecture, sculpture and painting, as well as the minor arts of the Renaissance, and to see their relationship with other manifestations of human activity.

LHC2021 ISLAMIC AND MUDEJAR ART

At the end of this course, the student will be able to describe and define the principal characteristics of Islamic art as well as the appropriation of some of its ornamental and building elements by Spanish Christian art and later by indo-Christian New Spain art. The student will also be able to identify problems related to mudéjar construction in Art History discourse and to describe and define the main characteristics of New Spain mudéjar style, particularly in the Puebla-Tlaxcala region.

LHC2031 PRE-HISPANIC ART OF MEXICO

At the end of this course, the student will be able to identify the old cultures of central Mexico and to compare and contrast them with other Mesoamerican cultural areas. The student will also distinguish the artistic production of cultures settled in Mexico's central zone.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LHC2041 ART AND GENDER

At the end of this course, the student will be able to analyze the relationship between art and gender construction processes in a Western socio historical and cultural context.

LHC2051 NEW SPANISH ART OF THE 16TH CENTURY

At the end of this course, the student will be able to distinguish the first stage in the construction of Mexican New Spain art, directed mainly by the mendicant Franciscan, Dominican and Augustine orders, especially in the modalities of architecture, sculpture, bas relief and mural painting. The student will also learn to discern the characteristics of spiritual conquest,

as defined by R. Ricard, and imaginarium colonization by S. Gruzinski, as well as their direct and indirect consequences in conception and elaboration processes in art.

LHC2061 BARROQUE AND ROCOCO

At the end of this course, the student will be able to use theoretical and methodological elements that lead to an understanding of historic and artistic processes of this period. The student will identify, analyze and evaluate the artists, works of art and processes most representative of Europe in the 17th and 18th centuries.

LHC2071 HISTORY AND EVOLUTION OF MUSEUMS

At the end of this course, the student will be able to define, analyze and identify different aspects related to the history and evolution of museums in the Western world and in Mexico. The student will identify specific problems in the architecture of museums and their particular development in the second half of the 20th century.

LHC2081 FORM AND IMAGE

At the end of this course, the student will be able to analyze artistic production in Art History, through learning to read works of art through visual alphabet instruments. The student will understand the contents of various plastic artistic manifestations through analysis of the form that each objectification adopts as an imperative of its material existence.

MKT4011 CULTURAL MARKETING (*)

At the end of this course, the student will be able to understand the options, strategies, methodologies, techniques and materials utilized in the design, planning, production, financing, distribution, promotion, execution and development of scenic or cultural projects, with the end result of combining the theoretical, technical and practical aspects of these projects.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LHC3011 ART IN THE 19TH CENTURY

At the end of this course, the student will be able to master the fundamentals to interrelate art with the complex economic, philosophical, social and spiritual environments of the 19th century. The student will also identify the stages of this historic artistic period (Illustration and Modern Age), its antecedent consequences and ideo-aesthetic problems of that century.

LHC3021 ART CRITICISM

At the end of this course, the student will be able to offer a historic introduction to the origin and development of art criticism from the 18th century to this day, as well as present different theoretical fundamentals for art criticism to be able to read critically and in detail some contributions of contemporary art criticism.

LHE3011 POSTSTRUCTURALISM THOUGHT (*)

At the end of this course, the student will be able to analyze some of the principal nodes that conform one of the theoretical dominant stages of the last decades and that challenged some key concepts of modernity, i.e. sense, truth and history.

LLI1011 PRE-HISPANIC LITERATURE

At the end of this course, the student will have a general panorama of the different literary manifestations of pre-hispanic cultures. The student will also be able to reflect on the specific conditions of Pre-Hispanic linguistic works.

LMU1011 MUSIC, FORM AND EXPRESSION (*)

At the end of this course, the student will be able to recognize the basic structures of musical organization, relating them to the historic development of dance, theater, literature and music.

SIXTH SEMESTER

LHC3031 19TH CENTURY IN MEXICO (ART AND DISCOURSE ABOUT IDENTITY)

At the end of this course, the student will be able to discern and define the main characteristics of Mexican art in the 19th century, that present a contrast between academic capital city art with the production of provincial workshops and academies. The student will also analyze its salient features, mainly in the modalities of architecture, architecture of altarpieces, sculpture, easel painting, graphics and photography. The student will also analyze the problems and peculiarities of national art in Porfirio Diaz's government and their consequences for Mexican artistic production.

LHC3041 ART SOCIOLOGY

At the end of this course, the student will be able to understand the main characteristics of discourses and methodologies of art sociology among different approaches to the re-structuration of art theory developed in the second half of the 20th century.

LHC3051 ART OF THE 1ST HALF OF THE 20TH CENTURY

At the end of this course, the student will be able to understand the development of modern art in Europe in the first half of the 20th century, with emphasis on the critical appreciation of each and every current, tendency and movement that characterize it.

LHC3061 NEW SPAIN ART IN THE 17TH AND 18TH CENTURIES

At the end of this course, the student will be able to discern and define the second stage in the development of Mexican art of New Spain, produced mainly in urban workshops under the aegis of secular clergy. The student will analyze the characteristics of this art in the 17th and 18th centuries, chiefly in the modalities of architecture and altarpiece architecture, sculpture, bas relief and easel painting. The student will also identify the characteristics of the emergence of a nationalistic Mexican consciousness and its direct consequences on artistic production.

LHC3071 RESEARCH METHODOLOGY

At the end of this course, the student will put into practice theoretical and methodological elements used in scientific research in general, and the specific methods particular to the field of art history.

THC4011 ELECTIVE COURSE I

At the end of this course, the student will be able to reflect on art history's problems and delve into new theoretical proposals and practices regarding art history and curation.

SEVENTH SEMESTER

LHC4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to identify the problems of cultural management and exert specific functions of a cultural manager.

LHC4021 MUSEOGRAPHY

At the end of this course, the student will be able to master the specific problems of museographics.

LHC4031 MEXICAN ART FROM THE FIRST HALF OF THE 20TH CENTURY

At the end of this course, the student will be able to discern and define the main characteristics of Mexican art in the first half of the 20th century whose offer, in the beginning, is to a great extent nationalistic. The student will know and analyze the Mexican entrance into modern plastics, especially in the modalities of sculpture, easel painting, graphics, and photography.

LHC4041 ART FROM THE SECOND HALF OF THE 20TH CENTURY

At the end of this course, the student will be able to discern the necessary elements to interrelate art with its economic, philosophical, social and spiritual environment of man in the second half of the 20th century. The student will identify and understand different changes and approaches to art and ideo-aesthetic thought during that time, and handle adequately the theoretical and methodological tools for an integral reading and analysis of artwork in this period.

LHE2021 THEORY AND PRACTICE OF CULTURAL STUDIES

At the end of this course, the student will be able to appreciate the history and evolution of cultural studies and apply basic concepts of this discipline to conform its study matter (hegemony, subculture, text, appropriation, etc.)

THC4021 ELECTIVE COURSE II

At the end of this course, the student will be able to reflect on art history's problems and delve into new theoretical proposals and practices regarding art history and curation.

EIGHTH SEMESTER

LHC4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to develop strategies for the private or public diffusion of contemporary art discourse, designing mounting proposals, technical selection, exhibition, handling, and specific conservation requirements of a work of art.

LHC4061 ART AND PSYCHOANALYSIS (*)

At the end of this course, the student will be able to define and analyze the reasons to reject or accept psychoanalysis by historical and theoretical art historians. The student will master specific problems of psychoanalysis advanced by Sigmund Freud, as well as his proposals for a psychoanalytic reading of art. In the same way, the student will define and analyze alterations in the concept of the unconscious made by C.G. Jung and his proposal of re-reading artistic processes and art history.

LHC4071 MEXICAN ART FROM THE SECOND HALF OF THE 20TH CENTURY

At the end of this course, the student will be able to discern and define the principal characteristics of Mexican art in the second half of the 20th century whose offer, in the beginning, is to a great extent in radical opposition to plastic and iconographic values promoted by the nationalist school, especially in the sculpture, easel painting, graphics and new genres modalities.

LHC4081 NEW TENDENCIES IN ART HISTORY (*)

At the end of this course, the student will be able to know some of the developments in artistic practice, expository strategies and theoretical proposals in the past two decades. The student will become familiar with new audiovisual syntax that supports contemporary artistic practice.

LHE4051 TOPICS AND THEORY OF CURRENT THINKING (*)

At the end of this course, the student will be able to analyze and critique contemporary problems that are redefining, in the academic area, subject matter in disciplines such as philosophy, anthropology or sociology. The student will review

readings collected along a topical axis, like "cultural studies," "globalization," "post colonialism" or "Latin American thought," to purposefully synthesize the most prominent texts on these matters, drawing from his/her studies, to take a stand and debate them.

THE4031 ELECTIVE COURSE III

At the end of this course, the student will be able to delve into the study of diverse matters, referring to, or associated with, the Humanities and Cultural Studies Bachelors, and understand the process of shaping, consolidation and modernization of the different social manifestations in the historic cultural evolution.

DANCE

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LDA1011 CONTEMPORARY DANCE I

At the end of this course, the student that has mastered theoretical practical concepts in class, will be able to perform a correct corporal alignment that allows the execution of steps and positions and to increment consciousness of a physical instrument as a means of artistic expression and to articulate the notion of movement as a way of thinking.

LDA1021 BALLET I

At the end of this course, the student that has mastered theoretical and practical concepts in class will be able to achieve a correct body alignment that will facilitate the execution of taught steps and positions, relating corporal connections with space. At the same time, the student will be able to grasp, memorize and correctly execute steps and positions taught in this course.

LDA1031 CHOREOGRAPHY COMPOSITION I

At the end of this course, the student, through the use of improvisation, dances in pairs and compositional studies, will be able to develop movement consciousness as an artistic form and begin to observe professional execution. The student will use creative thinking towards the body and corporality.

LDA1845 SCENIC PRACTICE I

At the end of this course, the student will be able to adequately satisfy the technical and interpretive requirements that the choreographer (professor) suggests, according to his/her semester. The student will relate the needs and demands of physical training with concepts of spatial design and scenic projection.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select

and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LDA1051 ALTERNATIVE TECHNIQUES

At the end of this course, the student will be able to develop mechanisms of alternate techniques to train special abilities with personalized attention to diverse corporalities in accompanying practices to the central structure of the syllabus. At the same time, the student will be able to increase consciousness of the physical instrument by means of artistic expression and to articulate movements of stream of consciousness in his/her level.

LDA1061 DANCE STUDIES

At the end of this course, the student that has completed assigned course activities will be able to develop an understanding of the fundamentals of Dance Studies, as well as to express him/herself with terminology of the area orally and in writing. At the same time, he/she will be able to assimilate theoretical concepts and to know the history of academic dancing, from its origins to the end of the 20th century.

LDA1071 CONTEMPORARY DANCE II

At the end of this course, the student will be able to develop and diversify his/her physical potential, improving flexibility, strength, endurance and movement efficiency and to develop abilities to support complex skills of neuromuscular coordination.

LDA1081 BALLET II

At the end of this course, the student will be able to perform exercises, using "en dedans" steps and to adequately use concepts and characteristics of "en dedans" form in steps learned in this course.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

THIRD SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LDA1847 SCENIC PRACTICE II

At the end of this course, the student will be able to master very complex movement sequences, showing technical expertise in their execution. Also, the student will be capable of developing abilities as a creative performer and to contribute to the development and creation of a scenic work in accordance to his/her level.

LDA2011 HISTORY OF THE BALLET

At the end of this course, the student will be able to explain and analyze contributing factors for the emergence of ballet, using historical, cultural and philosophical contexts. The student will identify the main characters in the history of ballet, whose contributions and reforms made it possible to become the scenic art that we can appreciate today.

LDA2021 CONTEMPORARY DANCE III

At the end of this course, the student will be able to correctly use the formal clarity and rhythmic exploration technique, and to balance internal kinesthesia with the execution of extreme forms.

LDA2031 BALLET III

At the end of this course, the student will be able to execute the steps studied in this course with better balance and muscular potency, as well as to perform exercises with greater dexterity, elasticity, rhythm and musicality.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

FOURTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LDA2051 SOMATIC STUDIES

At the end of this course, the student will be able to develop a profound understanding of body anatomy applied to dance. And, through the display of an integral knowledge of motor development, he/she is capable of understanding, developing and integrating basic principles of movement analysis for dancers.

LDA2061 CORPORAL DRAMATICS

At the end of this course, the student will be able to show a

better understanding of the writing, discourse, and critical thinking of dramatics, and of the theatrical tools needed for a successful performance as a dance artist in the professional field of scenic arts today. The student will identify important issues for dance professionals related to their own corporality, scenic composition, theatricality and cultural context.

LDA2071 CONTEMPORARY DANCE IV

At the end of this course, the student will be able to strengthen muscle groups that allow him/her to move with different qualities, and to increase the level of corporal command for the solution of movement phrasing peculiar to contemporary dance, and to use specifically in certain motor demands.

LDA2081 BALLET IV

At the end of this course, the student that has mastered theoretical and practical concepts in class, will be able to master small gyration techniques (single and double pirouette in dehors and dedans), and to perform jump exercises with battery, landing on one leg with required proficiency.

LDA2091 CHOREOGRAPHIC COMPOSITION II

At the end of this course, the student that has mastered theoretical and practical concepts in class, will be able to design and develop a choreography project from movement generation using space, time, form and structure elements. The student will work and cooperate to develop managing skills in order to integrate a team of basic production and staging of choreography projects for the stage.

FIFTH SEMESTER

LDA1849 SCENIC PRACTICE III

At the end of this course, the student will be able to adequately satisfy the technical and interpretive requirements that the choreographer (professor) suggests, according to his/her semester; and to acquire technical and interpretive abilities and habits needed to demonstrate an adequate artistic level.

LDA3011 PERFORMANCE STUDIES

At the end of this course, the student will be able to analyze performances and their nature in different study areas to develop a critical performance, to assimilate theoretical and practical concepts of this class and to fulfill practical projects. The student will present and debate a critical performance project related to cultural and critical theory.

LDA3021 COMPLEMENTARY TECHNIQUE

At the end of this course, the student will be able to analyze and develop complementary technique mechanisms to train on special skills with personalized attention of diverse corporalities in accompanying practices to the central structure of the syllabus. At the same time, the student will be able to increase consciousness of the physical instrument by means of artistic expression and to articulate movements of stream of consciousness in his/her level.

LDA3031 CONTEMPORARY DANCE V

At the end of this course, the student that has mastered theoretical and practical concepts in class, will be able to develop movement awareness as an art form and to endure the practice and techniques of dance. The student will explore exterior space, searching for different movements and venturing so the body and its movements are harmonious.

LDA3041 BALLET V

At the end of this course, the student will be able to perform the jump spectrum required, with required proficiency (entrechat trios, ending in cou de pied derriere, contretemp with extended legs and cou de pied); and to achieve correct balance in a slow turn with in l'air legs (promenade in dehors and dedans with devant and arabesque leg).

LMU1011 MUSIC, FORM AND EXPRESSION (*)

At the end of this course, the student will be able to recognize the basic structures of musical organization, relating them to the historic development of dance, theater, literature and music.

SIXTH SEMESTER

LDA3061 CURRENT DANCE TRENDS

At the end of this course, the student that has mastered theoretical and practical concepts in class will be able to identify and analyze concepts and practices in a specific dance topic. The student will show connections between ideas, artistic values and personal experiences, as well as ideas and theories of the give topic.

LDA3071 DANCE METHODOLOGY

At the end of this course, the student will be able to go in depth to a serious reflection about teaching in general and the specific teaching style of each person. The student will foster and boost the use of creative thinking regarding the body and its manifestations.

LDA3081 IMPROVISATION

At the end of this course, the student will be able to promote research on human body as a living, expressive, and constant motion entity, through improvisation, work in pairs and composition studies to explore the interface between technical principles and creative expression, to show connections between ideas, artistic values and personal experience as well as ideas and theories of an exposed topic.

LDA3091 CONTEMPORARY DANCE VI

At the end of this course, the student will be able to develop a technique of corporal expression and dance practice adequate for his/her level.

LDA3101 BALLET VI

At the end of this course, the student will be able to execute jumps with leg crossing and translation (brisse devant

and derriere) and to master balance in slow exercise with legs en l'air.

LDA3111 CHOREOGRAPHIC COMPOSITION III

At the end of this course, the student will be able to create a choreography work from a corporal-textual discourse, through individual methodological work. The student will develop a critical analysis of a choreography work and the use of music, scenery, lighting and space.

SEVENTH SEMESTER

LDA1851 SCENIC PRACTICE IV

At the end of this course, the student that has mastered theoretical and practical concepts in class will be able to develop skills as creative interpreter that help him/her to present a scenic work fit to his/her level. The student will increase body awareness as a means of artistic expression through scenic practice at a pre-professional level in a theatre, and with an audience suited to his/her level.

LDA4011 PROFESSIONAL PRACTICES I

At the end of this course, the student that has mastered theoretical and practical concepts in class will be able to identify theoretical and practical concepts about a specific topic related to dance for a terminal research project. The student will identify fundamental and conceptual components in a specific dance topic for a final research paper.

LDA4021 PRODUCTION AND STAGING

At the end of this course, the student that has mastered theoretical and practical concepts in class will be able to identify and analyze the elements of production and the possibility of their staging in theatrical spaces to develop personal production projects, from promotion to staging. The student will show connections between ideas, artistic values and personal experience as well as ideas and theories of an exposed topic.

LDA4031 CONTEMPORARY DANCE VII

At the end of this course, the student that has assimilated theoretical and practical concepts in class will be able to increase his/her technical potential to master the awareness of a physical instrument as a means of artistic expression, to articulate the notion of movement as a way of thinking and, at the same time to analyze the execution of dance, combining steps and movements with a high degree of technical complexity and the required artistic expression.

LDA4041 BALLET VII

At the end of this course, the student that has assimilated theoretical and practical concepts in class will be able to increase his/her technical potential to combine correctly intermediate jump and turn techniques (tour in l'air in 5th position, ending in 5th position and pas emboite and tournant), and to master a single turn in attitude derriere in dedans, ending in attitude and demi-plié.

TDA4011 ELECTIVE COURSE I

At the end of this course, the student will be able to have a better understanding of the practice, discourse and critical thinking necessary for a successful development as a dancer. Also, he/she will be able to identify important current events for professionals in this discipline in multi-discipline contexts, as well as strategies to handle the challenges that this field of study can present to his/her own training and professional interaction capabilities.

EIGHTH SEMESTER**LDA2541 SCENIC PRACTICE V**

At the end of this course, the student that has mastered theoretical and practical concepts in class, will be able to develop skills to create and use dance practices for scenic spaces. The student will direct other students through scenic practice at a pre-professional level in a theatre, in accordance with his/her level.

LDA4071 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to elaborate a final project of his /her theoretical and practical research, and to defend this project.

LDA4081 METHODOLOGIES FOR CLASSIC DANCE TEACHING

At the end of this course, the student that has assimilated theoretical and practical concepts in class will be able to plan and teach a class on the fundamentals of classical dance and to use concepts of movement for classic ballet teaching.

LDA4091 DANCE AS PROFESSION

At the end of this course, the student will be able to show a better understanding of writing, discourse and critical thinking requirements for a successful performance as professional dance artist. The student will identify current relevant factors for dance professionals at a local and international level, as well as strategies to confront them.

TAS4021 ELECTIVE COURSE II

At the end of this course, the student will be able to relate his/her field of study with theories and practices originating from other cultural areas.

TAS4031 ELECTIVE COURSE III

At the end of this course, the student will be able to relate the knowledge of his/her field of study with the most current theories and points of view regarding art and culture.

DIGITAL ANIMATION

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

LIV1021 REPRESENTATION FUNDAMENTALS

At the end of this course, the student will be able to represent, through drawings, different forms and figures within a space based on perception analysis. The student will have the ability to increase his/her environment's visual perception through the development of observation and psychomotor skills, using materials, supports, tools and elemental drawing formats. The student will also develop the capacity to understand the relationships between visually perceived forms and the ways to interpret them in a two-dimensional plane.

LIV1031 BASIC ELEMENTS OF A VISUAL MESSAGE

At the end of this course, the student will be able to understand and handle the necessary elements of the visual alphabet to create visual messages based on the aspects of image syntax.

LND1011 INTRODUCTION TO DIGITAL ANIMATION

At the end of this course, the student will be able to adequately explain, both written and orally, the different types of disciplines involved in digital animation and in the professional field of digital animation and videogames. The student will identify and value the social and cultural relevance of the different activities that take place in digital animation and videogames.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select

and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIS1031 OBJECT-ORIENTED PROGRAMMING

At the end of this course, the student will be able to design and program with an object oriented paradigm. The student will also know and apply the design techniques, UML (Unified Modeling Language) notation and Java or C# programming languages.

LIV1061 CONFIGURATION OF VISUAL MESSAGES

At the end of this course, the student will be able to select and apply the most adequate process of signification to communicate a visual message effectively, starting from visual grammar.

LND1021 INTRODUCTION TO ANIMATION TECHNIQUES

At the end of this course, the student will be able to recognize and explain the traditional techniques (such as frame by frame, pixilation, and celluloid) and the basics of animation that support digital animation. The student will be able to apply the basic formats of animation techniques.

LPM1021 CINEMATIC LANGUAGE I

At the end of this course, the student will be able to identify, describe and explain the main myths of the first sixty years of cinema history. The student will write a basic analysis of a movie in accordance with the evolution and use of narrative and cinematic language techniques up to the end of the 1950s.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LND2011 PRE-PRODUCTION AND PREVIEW

At the end of this course, the student will be able to develop a pre-production plan for a digital animation, based on pre-view knowledge and techniques. The student will apply pre-

view and design techniques, such as storyboard, modeling, and character design, where he/she demonstrates an adequate comprehension of audiovisual language and narrative structure.

LND2021 2D DIGITAL ANIMATION

At the end of this course, the student will be able to recognize and apply different 2D computer animation techniques, as well as a corresponding project workflow. At the end of the assignment, the student will be able to produce a 2D digital animation short applying different techniques, such as frame by frame, vector, keyframe trajectory, interpolation, symbol animation and camera movement.

LND3041 ANIMATION AND VIDEOGAME HISTORY

At the end of this course, the student will be able to identify the main events in the development of animation and videogames, and will critically evaluate their historic relevance. The student will also critique and explain the different techniques and technologies that have been developed in the history of animation and videogames.

LPM2031 SCREENWRITING

At the end of this course, the student will be able to write a basic analysis of a movie from the point of view of the main script components. The student will also write a short film and a segment of a long film.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

EDSO011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LIV2051 PHOTOGRAPHY

At the end of this course, the student will be able to dominate with skill and dexterity a professional digital camera, as well as photographic studio equipment to shoot high quality photographs in a studio and outside. Also, the student will be able to understand the photographic language, understanding it and applying it to plan, produce and evaluate photographs.

LIV3051 DIGITAL REPRESENTATION IN THREE DIMENSIONAL SPACE

At the end of this course, the student will be able to generate and integrate three dimensional images to design products, using specialized 3D software to communicate a visual message to a particular audience.

LND2041 DIGITAL MODELING AND TEXTURE

At the end of this course, the student will be able to understand the fundamental principles of modeling and texturization such as: modeling of basic or primitive forms, polygonal modelings, and surface texturization techniques. Also, the student will be able to apply digital modeling and texturing techniques, such as polygonal modeling and surfacing through the use of mesh among other techniques. The student will also apply types of texture (procedural and SHADER), and create texture maps (UV MAPPING) to expand them over the modeling of three-dimensional objects.

LPM1031 SOUND LANGUAGE

At the end of this course, the student will be able to design and produce auditory messages with communicative richness through the use of expressive resources of sound code. The student will learn to use the basic phases of analogical and digital equipment for the recording and reproduction of sound.

LPM2061 AUDIOVISUAL PRODUCTION TECHNIQUES

At the end of this course, the student will be able to express and correlate his/her messages in a creative and concise fashion using video production techniques. The student will develop videos through basic knowledge acquired of the most relevant aspects of each of the stages of the audiovisual production process.

FIFTH SEMESTER

ADM1011 INTRODUCTION TO ADMINISTRATION (*)

At the end of this course, the student will be able to describe the nature of administration, its characteristics and dynamic process, and to understand the essence of administration in the working areas of businesses.

LIP2021 INFORMATION AND SOCIETY

At the end of this course, the student will be able to understand social patterns and structures that influence information management in society. The student will base conceptually the different systems of information flow.

LIV3011 ADVANCED EDITING OF THE DIGITAL IMAGE

At the end of this course, the student will be able to edit digital images using specialized software to communicate a visual message for a specific audience. The student will apply the advanced theoretical knowledge in the handling of images for screen and printing, defining the adequate parameters for the reproduction medium.

LND3011 ADVANCED 3D DIGITAL ANIMATION

At the end of this course, the student will be able to identify and explain advanced techniques in 3D digital animation, as well as apply these techniques to a short film production.

LND3021 ADVANCED DIGITAL MODELING

At the end of this course, the student will be able to identify and understand advanced techniques of 3D modeling. The student will apply advanced digital 3D painting and sculpting, and surface subdivision techniques to a digital animation.

LND3031 LIGHTING AND DIGITAL COMPOSITION

At the end of this course, the student will be able to understand the concepts of lighting process, rendering and composition in digital animation. The student will also define and apply lighting on an object or scene to create specific effects, such as global illumination techniques or layers.

LPM2051 MULTIMEDIA PRODUCTION

At the end of this course, the student will be able to produce web pages with multimedia content by using different techniques. The student will also modify and adapt to his/her requirements the design and content of template BLOGS, WIKIS or similar websites.

SIXTH SEMESTER**LDE2021 INFORMATION LAW**

At the end of this course, the student will be able to identify the regulatory framework of this branch of law and its fundamental concepts, such as freedom of expression and self-image, and privacy rights. The student will solve practical cases of personal data protection, knowing different methods of contestation and the competent authorities to process them.

LND3051 MOTION CAPTURE AND CHARACTER ANIMATION

At the end of this course, the student will be able to know and apply the necessary workflow for motion capture, through the correct use of camera schemes, special equipment and effective direction of capture sessions. Using computer software, the student will also apply the captured movement data to animate characters in a production of a 3D digital animation.

LND3061 ADVANCED DIGITAL LIGHTING

At the end of this course, the student will be able to identify and solve, through advanced techniques, the lighting needs for a digital animation. The student will also apply advanced knowledge and techniques in lighting plants and renderization issues.

LND3071 VIDEOGAME DEVELOPMENT

At the end of this course, the student will be able to apply 3D animation techniques, understanding and applying its components, controls and processes required during the development of a videogame. The student will develop and produce a videogame project in a creative and original manner.

LND4021 SPECIAL EFFECTS FOR AUDIOVISUAL MEDIA

At the end of this course, the student will be able to demonstrate technical skills in the production of special effects for audiovisual media. The student will develop an audiovisual project in which advanced special effects are used, such as the manipulation of images, morphing, digital matting, digital rotoscoping or shadow manipulation.

SEVENTH SEMESTER**LID4031 TRAINING FOR THE CRITICAL RECEPTION OF MEDIA**

At the end of this course, the student will be able to develop his/her skills of critical reception before the media, using these skills in the analysis of television and digital media messages. Also, the student will design strategies to promote critical reception before the media in different population groups, education areas, both formal and informal.

LND4011 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to demonstrate the knowledge and experiences learned during the practice seminars, and to apply the knowledge and skills acquired through these professional practices.

LND4031 ADVANCED VIDEOGAME DESIGN

At the end of this course, the student will be able to apply methods and techniques for the development of interactive videogames, emphasizing game mechanics, player dynamics and project administration, including the use of emerging technologies such as gesture control technology. The student will carry out a critical analysis of the creative design of a videogame, and propose solutions on player dynamics, including the use of game management or open environments, the implementation of MMORPG games and other types of videogames that employ emerging technologies.

LND4041 VIDEOGAMES FOR MOBILE DEVICES

At the end of this course, the student will be able to explain the advantages and disadvantages of available technology for the creation of videogames for mobile devices, considering wireless networks, multi-platform client-server technologies, operating systems and multimedia applications for client users. Also, the student will develop a videogame prototype application for multiple platforms of mobile devices.

LND4051 DESIGN OF VIRTUAL ENVIRONMENTS

At the end of this course, the student will be able to demonstrate advanced skills in the construction of virtual environments, through modeling techniques, use of illumination, and interaction textures. The student will develop a high-quality virtual environment for animated scenes.

LPM4041 DESIGN AND EVALUATION OF COMMUNICATION PROJECTS

At the end of this course, the student will be able to design and evaluate communication or media systems that have a positive impact on the behavior of specific people, groups or spectators. The student will develop integral media and messaging projects.

EIGHTH SEMESTER

LND4061 RESEARCH TECHNIQUES FOR INTERACTIVE DIGITAL SYSTEMS (USABILITY)

At the end of this course, the student will be able to design a research methodology based on advanced usability concepts, and apply this methodology to a videogame prototype project. The student will be able to adequately analyze the research results and propose solutions considering the most actualized interphase typology.

LND4071 ADVANCED DEVELOPMENT OF VIDEOGAMES FOR MOBILE DEVICES

At the end of this course, the student will be able to apply methods and techniques for the advanced development of videogames for mobile devices, such as gesture control technology and geolocation. The student will carry out a critical analysis of a videogame, and propose solutions that include the development of videogames for multiple players, and its interaction with applications steered towards social networks and other emerging technologies.

LND4081 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to demonstrate the knowledge and experiences learned during the practice seminars, and to apply the knowledge and skills acquired through these professional practices.

TND4011 ELECTIVE COURSE I

At the end of this course, the student will be able to demonstrate orally and in writing the knowledge and skills directly related to their area of concentration, applying to a digital animation or videogame the knowledge and skills acquired.

TND4021 ELECTIVE COURSE II

At the end of this course, the student will be able to demonstrate orally and in writing the knowledge and skills directly related to their area of concentration, applying to a digital animation or videogame the knowledge and skills acquired.

TND4031 ELECTIVE COURSE III

At the end of this course, the student will be able to demonstrate orally and in writing the knowledge and skills directly related to their area of concentration, applying to a digital animation or videogame the knowledge and skills acquired.

FINE ARTS

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LAP1011 INTRODUCTION TO DRAWING

At the end of this course, the student will be able to represent fundamental elements of drawing, experimenting with basic materials and psychometric exercises with the intention of immediate responses, and to develop expressive capacity in a problem of spatial representation related to objects.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHC1011 ART AND ITS DISCOURSES I

At the end of this course, the student will be able to master the particulars of socio-cultural context that led to the invention of art in the West. The student will describe the specific problems in the construction of art discourse and art before, during and after art. The student will master the problems of categories in art discourse and about art.

LIV1011 DIGITAL DESIGN FUNDAMENTALS

At the end of this course, the student will be able to create images on computer using specialized software to communicate a visual message to a specific audience, applying the basic theoretical knowledge of images for screen and print, defining in an effective way the adequate parameters for the medium that is being used.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LAP1021 PRINTING AND MEDIA

At the end of this course, the student will be able to develop principles of perceptible appearance in graphics, related with

plastic qualities, identifying graphic representation techniques in relation to the limits of its material quality, applied to intaglio and relief.

LAP1031 GRAPHIC REPRESENTATION

At the end of this course, the student will be able to develop a three-dimensional knowledge of spatial and temporal representation. The student will also be able to apply different perspectives to build a representation model in drawing.

LAP1041 INTRODUCTION TO TWO-DIMENSIONAL WORKSHOP

At the end of this course, the student will be able to develop techniques to represent images and objects in different spatial views, applying color theory and various composition forms in basic two-dimensional techniques for the effective portrayal of space in a pictorial context.

LAP1051 INTRODUCTION TO THREE-DIMENSIONAL WORKSHOP

At the end of this course, the student will be able to identify a three-dimensional space derived of basic concepts, developing a creative understanding through intuitive exploration and basic techniques used in three-dimensional composing related to its space.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHC1041 ART AND ITS DISCOURSES II

At the end of this course, the student will be able to understand the socio cultural context that led some European philosophers to the construction of a specific reflection around particular objects that constitute art, beginning in the 18th century. The student will understand some of the more salient postures of these discourses reused throughout the 20th century by artists to base their ideas and to defend their plastic proposals.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAP2011 INTRODUCTION TO HUMAN BODY

At the end of this course, the student will be able to analyze, through direct observation, the possibilities of representing the human body in the graphic language of drawing, mastering common proportions and postures.

LAP2021 BASIC TWO-DIMENSIONAL WORKSHOP

At the end of this course, the student will be able to develop techniques to represent images and objects in different spatial views, applying color theory and various composition forms in basic two-dimensional techniques for the effective portrayal of space in a pictorial context.

LAP2031 BASIC THREE-DIMENSIONAL WORKSHOP

At the end of this course, the student will be able to develop a sense of three-dimensional configuration, by exploring form, material, texture, and color, and implementing technical skills to understand space as it relates to objects that are part of it and its context.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIV2011 SEMIOTICS (*)

At the end of this course, the student will be able to know and apply the basic principles of semiotics and visual language, as well as to develop the bases to propose production strategies of meaning through the design of messages in visual communication media.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAP2041 GRAPHIC WORKSHOP

At the end of this course, the student will be able to identify technical processes of printing, through handling and use, and developing adequate means to reproduce a personal plastic project.

LAP2051 HUMAN FIGURE

At the end of this course, the student will be able to correctly represent in drawings the human figure, mastering the complexity of its structure and setting, in agreement with the laws of volumetric representation.

LAP2061 TWO-DIMENSIONAL REPRESENTATION WORKSHOP

At the end of this course, the student will be able to build various possibilities to represent traditional spatial relations in painting and ways to interpret them in a pictorial level.

LAP2071 THREE-DIMENSIONAL REPRESENTATION WORKSHOP

At the end of this course, the student will be able to shape three-dimensional forms, identifying the quality of materials, their perceptible appearances, and their spatial land context

resolutions, through the relation between the objects within a sculpture context.

LHC2071 HISTORY AND EVOLUTION OF MUSEUMS

At the end of this course, the student will be able to define, analyze and identify different aspects related to the history and evolution of museums in the Western world and in Mexico. The student will identify specific problems in the architecture of museums and their particular development in the second half of the 20th century.

LIV2051 PHOTOGRAPHY

At the end of this course, the student will be able to dominate with skill and dexterity a professional digital camera, as well as photographic studio equipment to shoot high quality photographs in a studio and outside. Also, the student will be able to understand the photographic language, understanding it and applying it to plan, produce and evaluate photographs.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LAP3011 BASIC WORKSHOP OF ARCHITECTURAL SPACES

At the end of this course, the student will be able to identify the analysis and practice of different contemporary techniques, stemming from non-traditional material selection used in art, and centered in their basic conceptualization and handling.

LAP3021 DRAWING WORKSHOP

At the end of this course, the student will be able to manufacture and enforce strategies to depict different mimetic representations in drawing, using an autonomous language of visual communication to process an independent work.

LAP3031 TWO-DIMENSIONAL THEMATIC WORKSHOP

At the end of this course, the student will be able to develop techniques to depict images and objects in various visualization and spatial possibilities in a pictorial context.

LAP3041 THREE-DIMENSIONAL THEMATIC WORKSHOP

At the end of this course, the student will be able to analyze the iconic relationship between space and volume in problems of traditional depiction of the human figure in a three-dimensional configuration.

LHE3011 POSTSTRUCTURALISM THOUGHT (*)

At the end of this course, the student will be able to analyze some of the principal nodes that conform one of the theoretical dominant stages of the last decades and that challenged come key concepts of modernity, i.e. sense, truth and history.

SIXTH SEMESTER

LAP3051 ADVANCED TWO-DIMENSIONAL WORKSHOP

At the end of this course, the student will be able to analyze different kinds of mimetic two-dimensional representation by mastering pictorial techniques in a personal plastic project.

LAP3061 ADVANCED THREE-DIMENSIONAL WORKSHOP

At the end of this course, the student will be able to argue with three-dimensional proposals, considering specific spaces and the relationships to materials, identifying their quality, perceptible appearance and spatial resolution in a sculpting space that is part of a given context.

LAP3071 THEMATIC GRAPHICS WORKSHOP

At the end of this course, the student will be able to use graphic representation techniques such as lithography, silk-screen, photography and digital graphics in an inter-disciplinary project approached with a different vision from the traditional printing of graphics.

LAP3081 ARCHITECTURAL SPACES

At the end of this course, the student will be able to develop an individual critical reflection about the art form called installation, through the analysis of concepts and problems present in this genre. The student will have analytic tools to read and create this kind of work.

LHC3031 19TH CENTURY IN MEXICO (ART AND DISCOURSE ABOUT IDENTITY)

At the end of this course, the student will be able to discern and define the main characteristics of Mexican art in the 19th century, that present a contrast between academic capital city art with the production of provincial workshops and academies. The student will also analyze its salient features, mainly in the modalities of architecture, architecture of altarpieces, sculpture, easel painting, graphics and photography. The student will also analyze the problems and peculiarities of national art in Porfirio Diaz's government and their consequences for Mexican artistic production.

LHC3041 ART SOCIOLOGY

At the end of this course, the student will be able to understand the main characteristics of discourses and methodologies of art sociology among different approaches to the re-structuration of art theory developed in the second half of the 20th century.

SEVENTH SEMESTER

LAP4011 INTER-DISCIPLINARY WORKSHOPS

At the end of this course, the student will be able to analyze and practice different contemporary techniques, integrating them to create inter-disciplinary projects in plastic arts.

LAP4021 ARCHITECTURAL SPACES PRODUCTION

At the end of this course, the student will be able to reason on different analysis and practical structures of diverse contemporary techniques, based on action or intervention, and the understanding of their space/time function and their object/environment relationship.

LAP4031 PLASTIC INTEGRATION WORKSHOP

At the end of this course, the student will be able to use different approaches to plastic production techniques, where he/she applies theories, techniques, and methods of his/her profession from a multi-disciplinary point of view in order to create an integral multi-disciplinary plastic work.

LAP4041 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to develop theoretic and practical concepts, to research artistic models, building up the abilities and reasoning needed for an optimal professional plastic artist working in his/her culture.

LHC4021 MUSEOGRAPHY

At the end of this course, the student will be able to master the specific problems of museographics.

TAP4011 ELECTIVE COURSE I

At the end of this course, the student will be able to actively participate, look for information and elaborate documents, arguments and skills for the discussion and creation of consensus and/or conclusions and judgments. All of these skills are aimed at the creation, development and realization of an artistic project.

EIGHTH SEMESTER

LAP4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to develop strategies for the private and public diffusion of contemporary artistic discourse, designing assembly proposals, technical processes of selection, exhibition and handling and specific requirements to preserve a work of art, building up abilities and reasons needed for an optimal professional plastic artist working in his/her culture.

LHC4061 ART AND PSYCHOANALYSIS (*)

At the end of this course, the student will be able to define and analyze the reasons to reject or accept psychoanalysis by historical and theoretical art historians. The student will master specific problems of psychoanalysis advanced by Sigmund Freud, as well as his proposals for a psychoanalytic reading of art. In the same way, the student will define and analyze

alterations in the concept of the unconscious made by C.G. Jung and his proposal of re-reading artistic processes and art history.

LHC4081 NEW TENDENCIES IN ART HISTORY (*)

At the end of this course, the student will be able to know some of the developments in artistic practice, expository strategies and theoretical proposals in the past two decades. The student will become familiar with new audiovisual syntax that supports contemporary artistic practice.

LIV3011 ADVANCED EDITING OF THE DIGITAL IMAGE

At the end of this course, the student will be able to edit digital images using specialized software to communicate a visual message for a specific audience. The student will apply the advanced theoretical knowledge in the handling of images for screen and printing, defining the adequate parameters for the reproduction medium.

TAS4021 ELECTIVE COURSE II

At the end of this course, the student will be able to relate his/her field of study with theories and practices originating from other cultural areas.

TAS4031 ELECTIVE COURSE III

At the end of this course, the student will be able to relate the knowledge of his/her field of study with the most current theories and points of view regarding art and culture.

INTERIOR ARCHITECTURE

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LAI1011 CONCEPTS AND ARGUMENTS (*)

At the end of this course, the student will be able to define and identify basic concepts of architectural design and to use them in elementary spatial exercises and their graphic representation, with emphasis on the creative process, applying the design methodology offered by the department.

LAI1021 INTRODUCTION TO INTERIOR ARCHITECTURE

At the end of this course, the student will be able to identify basic characteristics of interior architecture, its field of action and its emerging areas. The student will also be able to identify its relationship with other disciplines.

LAR1011 GEOMETRY AND SPACE

At the end of this course, the student will be able to identify features and ways of handling geometrical figures and surfaces that define the architectural space and object. The student will be able to depict them in various projection modes.

LAR1031 ARCHITECTURAL DRAWING I

At the end of this course, the student will be able to handle space and form through architectural drawing. Additionally, he/she will be able to defend his/her own designs with the help of sketches to represent concepts used, and to apply conventions of architectural drawing to communicate his/her design ideas.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and

to use them to inform and increase academic and scientific knowledge.

LAI1031 SPATIAL MODELS

At the end of this course, the student will be able to define and identify the basic elements, concepts, and purposes of an architectural design, applied to a specific context and user to build simple spatial models, using design methods provided by the department.

LAI1041 INTERIOR ENVIRONMENT

At the end of this course, the student will be able to identify concepts and methods of analysis of the impact of material, formal and environmental features of interior space on physical and psychological well-being and on comfort and quality of life of the user. The student will be able to critically evaluate the psycho-environmental quality of interior spaces as the stage for human activities and behavior.

LAR1041 MODELS

At the end of this course, the student will be able to build models, both manually and digitally, as part of the concept of conceiving, developing and analyzing an architectural project.

LAR1051 GEOMETRY AND REPRESENTATION TECHNIQUES

At the end of this course, the student will be able to depict graphically an architectural space, using basic techniques in architectural and interior design projects, and to explore form and space through perspective.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1021 MATH I

At the end of this course, the student will be able to use basic algebraic concepts, setting up and solving equations that represent problems involving percentages and interest rates. Also, the student will use trigonometric tools to solve geometric problems.

THIRD SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAI2011 MAN AND SPACE

At the end of this course, the student will be able to analyze and evaluate the user's profile and the anthropometric, ergonomic, psychological, social and image needs. The student will be able to identify the user's behavior and the requirements of universal design to generate spatial answers optimal for comfort, daily activities and domesticity.

LAR2011 BUILDING MATERIALS

At the end of this course, the student will be able to: identify building materials, identify various alternatives to use at different construction stages, and establish selection criteria for suitable materials and building elements.

LAR2021 ARCHITECTURAL DRAWING II

At the end of this course, the student will be able to visually and graphically represent architectural and interior design projects using computer programs such as AutoCAD and Architectural or their equivalent. Additionally, he/she will be able to relate the objectives of architectural representation with their structural and constructive counterpart.

LAR2031 STRUCTURAL PRINCIPLES

At the end of this course, the student will be able to understand the underlying structural logic of different systems through case analysis, identifying how a structure holds up, the typological and formal properties that give it integrity, as well as the way in which they absorb and transfer forces in a housing project.

LAR3061 MEXICAN ARCHITECTURE

At the end of this course, the student will be able to explain architectural solutions used in Mexican architecture between the 16th and 19th century, relating them to the influence of weather, society, economy, politics and culture

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

FOURTH SEMESTER**INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE**

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAI2021 INTERIOR MATERIALS AND PROCEDURES

At the end of this course, the student will be able to understand and identify features of conventional interior materials and finishes, as well as their manufacturing processes, placement and maintenance. The student will also be able to specify and apply them in an interior architecture project.

LAI2031 SPACE AND CONTEXT

At the end of this course, the student will be able to analyze and evaluate historic and socio-cultural contexts and their impact on a formal, structural, and environmental solution of space. The student will also be able to interpret the significance and image of an interior space, using innovative materials and technologies in response to technically optimal, functional, and environmental design.

LAI2041 SENSORIALITY AND SPACE

At the end of this course, the student will be able to discern light, color, sound and optic phenomena in an interior space through experimentation, analyzing its perceptive, psychological, aesthetic, functional and environmental impact on space through different graphic and modeling methods.

LAR2061 DIGITAL SIMULATION

At the end of this course, the student will be able to represent, explore, and promote architectural and interior design projects through digital means in three-dimensional modeling.

LAR4071 ARCHITECTURAL HERITAGE

At the end of this course, the student will be able to appreciate a built environment's worth and to propose interventions to foster their potential.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LAI3011 CONSTRUCTION DETAILING

At the end of this course, the student will be able to identify construction details of different interior elements and conventional assemblies in an interior job, and to apply and represent them in drawings and blueprints.

LAI3021 IDENTITY AND SPACE

At the end of this course, the student will be able to identify and analyze the concept of branding and the corporate and commercial image, as well as the elements that define them in order to use them in commercial, corporate, and cultural spaces, taking into consideration characteristic technology, materials and finishes in these types of spaces. The student will also incorporate accessibility and security concepts into the design.

LAI3031 ARCHITECTURAL COMMUNICATION

At the end of this course, the student will be able to select, handle and apply techniques and tools of digital and manual representation that are adequate for the elaboration of graphic, audio-visual, and digital materials to foster communication, presentation and promotion of architectural and interior projects.

LAR3031 BASIC INSTALLATIONS

At the end of this course, the student will be able to establish the importance of electrical, water, sewage and gas installa-

tions as service networks that make an architectural project work. He/She can identify features and constraints of each type of installation and master the calculation methods, and the most adequate ways to integrate installations in a project.

LMK1011 MARKETING FUNDAMENTALS (*)

At the end of this course, the student will be able to identify the principles and key elements of marketing (product, price, placement and promotion) to develop a market strategy to create value for customers.

SIXTH SEMESTER

LAI3041 COSTS IN INTERIORS

At the end of this course, the student will be able to analyze factors that comprise the costs of an interior project, and to identify methods to use for the evaluation of costs of an interior architectural project, in order to define the final price of the job and to provide the pertinent documentation.

LAI3051 SPACE AND TEMPORALITY

At the end of this course, the student will be able to analyze the features, conditions and uses of temporal and ephemeral spaces, as well as propose innovative solutions for emergent uses, such as scenery, exhibits, events, fairs, moveable service booths, shelters, temporary housing and spaces for transport. Besides, he/she will be able to select adequate support and installation systems and to propose parts, materials, and finishes.

LAI3061 LIGHTING AND INTELLIGENT TECHNOLOGIES

At the end of this course, the student will be able to: identify factors that provide comfortable lighting, interpret photometric, technical, and electrical specifications of lighting devices, elaborate diagrams to explore physical light phenomena and their impact in the quality and functionality of an environment, and diagram lighting solutions through lighting blueprints. Also, to recognize advanced technical systems and their application for the optimization of environments and space automatization.

LAI3071 EXTERIOR ENVIRONMENT

At the end of this course, the student will be able to: understand and explain the main components of the environment, discern various types of urban and exterior spaces, identify their most important historic and socio-cultural features, and analyze their impact on special, environmental, ecologic, sustainable, and functional exterior space characteristics and as the container of interior environments.

LAI3081 INTERIOR DESIGN IN ANTIQUITY

At the end of this course, the student will be able to identify and explain pre-modern interior spaces from a typological, morphological, spatial, environmental, functional, stylistic, aesthetic, political, cultural, material, technical, and anthropological point of view, from antiquity to the neo-classic era. Also, the student will learn to apply analytical methods that

correspond to a spatial and contextual reading to provide answers to interiors which are sensitive to cultural, historical, spatial, environmental and aesthetic values.

TAI4011 ELECTIVE COURSE I

At the end of this course, the student will be able to identify the emerging fields of study of interior architecture.

SEVENTH SEMESTER

LAI4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply knowledge and skills acquired in his/her academic studies for the solution of real problems in architecture of interiors, under a professional supervision, in offices of interior design, architecture, construction or public institutions.

LAI4021 OBJECT-PRODUCT AND SPACE

At the end of this course, the student will be able to analyze the functional, spatial, visual and aesthetic role of interior elements and objects produced by industrial design as integral part of a project. The student will also propose the design of spatial units imagined as industrial products, and generate digital and physical models for prototypes of complementary elements and spatial interior units, defining materials, assemblies and structures to be used, experimenting with production processes and evaluating the viability of proposed designs.

LAI4031 SPACE CONDITIONING

At the end of this course, the student will be able to identify necessary conditions for environmental comfort inside an architectural space, and to identify optimal solutions for an architectural project, regarding climate, acoustic, security and lighting conditions.

LAI4041 PROTOTYPES AND SPATIAL ELEMENTS

At the end of this course, the student will be able to imagine, design, model and build prototypes and models of elements, objects and spatial interiors units, considering materials, support systems and installations, conducting tests of their functional, material and aesthetic qualities to assess their viability.

LAI4051 DIGITAL MODELING

At the end of this course, the student will be able to model digitally innovative prototypes of products and objects in interiors and future spatial scenarios, to analyze their formal characteristics, materials, structures and production processes.

LAI4061 MODERN AND CONTEMPORARY INTERIORS

At the end of this course, the student will be able to identify and explain modern and contemporary interior spaces from a typological, morphological, spatial, environmental, functional, stylistic, aesthetic, political, cultural, material, technical, sustainable, human, socio-economic and image point of view, from the Industrial Revolution to our day. He/She will be able to apply analysis methods that correspond to a spatial and contextual reading, providing answers to interior design while being conscious of socio-cultural, economic, spatial,

technical, material, aesthetic, productive, political and image-related conditions, both tangible and intangible.

EIGHTH SEMESTER

LAI4071 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to master all knowledge acquired in his/her studies and apply them independently to the solution of actual problems of architecture of interiors. The student will be able to establish a link between theory and practice, between university and society, and between his/her hopes and the needs of his/her surroundings.

LAI4081 INTERIOR MANAGEMENT

At the end of this course, the student will be able to identify processes and actions in managing an interior design job, establishing planning, control, evaluation and maintenance processes as a fundamental part of the operation and fulfillment of the job. The student will also be able to prepare the required paperwork for all these processes.

LAR4041 SPECIAL INSTALLATIONS

At the end of this course, the student will be able to identify and analyze existent elements in an architectural project that provide energy savings, security and comfort for their occupants. The student will also identify and approach automated applications that may be incorporated to architecture.

TAI4021 ELECTIVE COURSE II

At the end of this course, the student will be able to identify the emerging fields of study of interior architecture.

TAS4031 ELECTIVE COURSE III

At the end of this course, the student will be able to relate the knowledge of his/her field of study with the most current theories and points of view regarding art and culture.

LANGUAGE STUDIES

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LAC2011 LANGUAGE AND CULTURE: NAHUATL

At the end of this course, the student will be able to master the linguistic tools needed to understand historic documents, and to use basic spoken nahuatl for use in the field and for analysis of anthropologic data.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIO1011 SPANISH LANGUAGE HISTORY AND STUDY

At the end of this course, the student will be able to reflect on the evolution of Spanish as a language, analyzing the role of grammatical structures in the construction of meaning.

LIO1021 INTRODUCTION TO THEORETICAL LINGUISTICS

At the end of this course, the student will be able to handle, conceptually and operationally, the basic principles of theoretical linguistics, analyzing the structure of language through linguistic arguments.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIO1031 THIRD LANGUAGE I

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO1041 INTRODUCTION TO APPLIED LINGUISTICS

At the end of this course, the student will be able to identify the different areas of applied linguistics, as well as know the methodology tendencies and current problems.

LIO1051 EDUCATION TECHNOLOGIES

At the end of this course, the student will be able to integrate the use of new information technologies to the communication in education, designing material for the teaching-learning processes.

LIO1061 LANGUAGE ACQUISITION

At the end of this course, the student will be able to define the psycho-cognitive processes of the development of first languages.

LIO1071 CONTRASTIVE GRAMMAR IN SPANISH AND ENGLISH

At the end of this course, the student will be able to recognize the phonological, morphological, syntactic and morphosyntactic differences that characterize both languages.

THIRD SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LID2011 QUANTITATIVE RESEARCH METHODS

At the end of this course, the student will be able to carry out, on a basic level, projects, applications and reports using quantitative research methods.

LIO2011 THIRD LANGUAGE II

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO2021 INTRODUCTION TO SOCIOLINGUISTICS

At the end of this course, the student will be able to critically analyze social problems related to the use of language.

LIV2011 SEMIOTICS (*)

At the end of this course, the student will be able to know and apply the basic principles of semiotics and visual language, as well as to develop the bases to propose production strategies of meaning through the design of messages in visual communication media.

FOURTH SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX2021 FOREIGN LANGUAGE IV

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIO2031 THIRD LANGUAGE III

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO2041 SECOND LANGUAGE ACQUISITION

At the end of this course, the student will be able to describe the phenomenon of second language acquisition, valuing the factors that intervene in this process.

LIO2051 ACADEMIC WRITING IN ENGLISH

At the end of this course, the student will be able to analyze and produce academic texts in English, which meet formal specifications and have language precision. These concepts are necessary for their publication in magazines or forums dedicated to this area.

LIO2061 SPEECH AND PRAGMATIC

At the end of this course, the student will be able to differentiate the theoretical frameworks of linguistic analysis of texts. The student will apply the basic tools of pragmatism and speech analysis.

LIO2071 METHODS IN LANGUAGE TEACHING

At the end of this course, the student will be able to evaluate different methods for teaching languages.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LEX3011 FOREIGN LANGUAGE V

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LID3011 QUALITATIVE RESEARCH METHODS

At the end of this course, the student will be able to carry out an education research project with a qualitative focus, identifying a social phenomenon and selecting the correct qualitative methods and techniques. The student will interpret the results and write a research paper.

LIO3011 THIRD LANGUAGE IV

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO3021 FOURTH LANGUAGE I

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO3031 TRANSLATION THEORY AND PRACTICE

At the end of this course, the student will be able to discuss and apply some of the main translation theories. The student will practice some translation techniques and strategies.

SIXTH SEMESTER

LIO3041 THIRD LANGUAGE V

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO3051 FOURTH LANGUAGE II

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO3061 READING-WRITING

At the end of this course, the student will be able to master the different theories of reading-writing and apply models for the teaching of reading-writing in a first language.

LIO3071 EVALUATION IN TEACHING SECOND LANGUAGES

At the end of this course, the student will be able to analyze theories and models to evaluate the learning of languages. The student will design evaluation instruments to teach languages.

LIO3081 BILINGUAL EDUCATION

At the end of this course, the student will be able to understand the problems of bilingual education, questioning the impact of bilingual education in today's world.

LIO3091 EDUCATIONAL GRAMMAR

At the end of this course, the student will be able to handle, conceptually and operationally, the basic theories of educational grammar. The student will be able to decide on the most effective approaches and theories in grammatical pedagogical practice.

SEVENTH SEMESTER

LID3021 HUMAN RIGHTS AND INTERCULTURE

At the end of this course, the student will be able to debate about the need for interculture and human rights as bases of education to build a tolerant, solid and just global society. The student will identify human-rights violations and discriminations in everyday life, and will select education strategies as solutions. The student will respect cultural, social, ethnic, gender difference through self-awareness of his/her prejudices and personal stances.

LIO4011 THIRD LANGUAGE VI

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO4021 FOURTH LANGUAGE III

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO4031 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to discriminate between different research practices in applied linguistics, and will be able to select appropriate methods and tools to solve problems in the area of applied linguistics.

LIO4041 CURRICULUM DEVELOPMENT

At the end of this course, the student will be able to evaluate and design programs and material to teach languages.

TIO4011 ELECTIVE COURSE I

At the end of this course, the student will be able to assuredly address the selected topics, with the finality to be up-to-date with the topics related to theoretical and descriptive linguistics.

EIGHTH SEMESTER

LHE4051 TOPICS AND THEORY OF CURRENT THINKING (*)

At the end of this course, the student will be able to analyze and critique contemporary problems that are redefining, in the academic area, subject matter in disciplines such as philosophy, anthropology or sociology. The student will review readings collected along a topical axis, like "cultural studies," "globalization," "post colonialism" or "Latin American thought," to purposefully synthesize the most prominent texts on these matters, drawing from his/her studies, to take a stand and debate them.

LIO4051 FOURTH LANGUAGE IV

At the end of this course, the student will be able to transmit and comprehend known and/or new information, both orally and in writing.

LIO4061 LANGUAGE AND COMPUTERS

At the end of this course, the student will be able to appreciate the different applications that computers have for the area of applied linguistics. The student will learn to use computers in a significative and efficient way for the analysis and teaching of languages.

LIO4071 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply methods and techniques learned during his/her studies in professional situations or teaching investigations of foreign languages, translation and/or interpretation, and intercultural relations, working as a team with experts in his/her field of study.

TIO4021 ELECTIVE COURSE II

At the end of this course, the student will be able to assuredly address the selected topics, with the finality to be up-to-date with the topics related to teaching languages.

TIO4031 ELECTIVE COURSE III

At the end of this course, the student will be able to analyze and integrate the diverse perspectives and tendencies of applied linguistics.

LITERATURE

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX011 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIO1011 SPANISH LANGUAGE HISTORY AND STUDY

At the end of this course, the student will be able to reflect on the evolution of Spanish as a language, analyzing the role of grammatical structures in the construction of meaning.

LLI1011 PRE-HISPANIC LITERATURE

At the end of this course, the student will have a general panorama of the different literary manifestations of pre-hispanic cultures. The student will also be able to reflect on the specific conditions of Pre-Hispanic linguistic works.

LLI1021 INTRODUCTION TO LITERARY CREATIONS

At the end of this course, the student will be able to reflect on the essential particularities of fiction, poetry and literary essays. The student will also be able to write with artistic quality fiction, poems and essays

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LLI1031 LITERARY MODELS (FICTION)

At the end of this course, the student will be able to establish the structural and thematic differences between epic poetry, novel and story. The student will also be able to interpret par-

adigmatic works from the epic poems to recent Western stories and novels.

LLI1041 THEORY AND CRITICISM

At the end of this course, the student will be able to understand the most important Western theoretical and criticism texts. The student will also be able to write criticism texts applying the literary theory studied in class.

LLI1051 LITERATURE DURING THE CONQUEST

At the end of this course, the student will be able to understand the particularities of American Conquest literature as they relate to the hegemonic perspective from which this literature was written. The student will also be able to put into context and correctly interpret fundamental texts from the conquest of America.

LLI1061 MEDIEVAL SPANISH LITERATURE

At the end of this course, the student will be able to put into context and understand Medieval Spanish literature. The student will also understand Medieval Spanish worldview through historiography, epic, lyric and primitive Spanish theater.

LTE1041 THEATER HISTORY

At the end of this course, the student will evaluate in written and oral form the individual and group research projects, the different theater models throughout Western history, as well as their links with society, market, economy and politics.

THIRD SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIV2011 SEMIOTICS (*)

At the end of this course, the student will be able to know and apply the basic principles of semiotics and visual language, as well as to develop the bases to propose production strategies of meaning through the design of messages in visual communication media.

LLI2011 LITERARY MODELS (POETRY)

At the end of this course, the student will be able to identify the essential elements of poetry: rhythm, meter, rhyme, free verse and rhetoric. The student will also be able to understand the basic poetry styles, from the Renaissance to post-modern, as well as correctly interpret important Western poems.

LLI2021 SPANISH LITERATURE IN THE GOLDEN AGE I

At the end of this course, the student will be able to have a general knowledge of Spanish literature in the first phase of the Golden Age. The student will be able to reflect on the Golden Age in the context of the Counter-Reformation, Erasmism, Expansionism and other decisive elements of this era.

LLI2031 SPANISH-AMERICAN LITERATURE (UP TO THE 18TH CENTURY)

At the end of this course, the student will be able to have a panoramic knowledge of Spanish-American literature up to the 18th century. The student will be able to reflect on the cultural heterogeneity of the American colonial period.

FOURTH SEMESTER
INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LLI2041 19TH CENTURY MEXICAN LITERATURE

At the end of this course, the student will be able to understand the path of Mexican literature from pre-Independence to Modernism. The student will be able to articulate the Mexican literary production of the 19th century with the political itinerary of the independent Republic.

LLI2051 LITERARY MODELS (ESSAY)

At the end of this course, the student will be able to understand essay theories, identifying the main characteristics of this genre, and interpreting essay texts (European, Spanish-American and American) in light of essay theories.

LLI2061 LATIN AMERICAN CRITICISM AND HISTORIOGRAPHY

At the end of this course, the student will be able to summarize the critical and historiographical thinking of Latin America in the 19th and 20th centuries. The student will also be able to relate the critical and historiographical exercises with pertinent theoretical conceptualizations.

LLI2071 LITERARY THEORY OF THE 20TH CENTURY

At the end of this course, the student will be able to master the fundamental concepts of 20th century literary theory. The student will apply the most important theoretical models of the 20th century to the study and analysis of concrete literary works.

LLI2081 SPANISH LITERATURE IN THE GOLDEN AGE II

At the end of this course, the student will know, in a general manner, Spanish literature in the second phase of the Golden Age. The student will be able to reflect on the work of Miguel

de Cervantes and put it into context with the most important ideas of the Golden Age.

LLI2091 19TH CENTURY SPANISH-AMERICAN LITERATURE

At the end of this course, the student will be able to have a panoramic knowledge of 19th century Spanish-American literature, and will be able to discuss the invention, development and social functions of Latin American literature in relation with the construction of independent countries.

FIFTH SEMESTER
EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LHE3011 POSTSTRUCTURALISM THOUGHT (*)

At the end of this course, the student will be able to analyze some of the principal nodes that conform one of the theoretical dominant stages of the last decades and that challenged some key concepts of modernity, i.e. sense, truth and history.

LLI3011 BRASILIAN LITERATURE

At the end of this course, the student will be able to have a panoramic knowledge of Brazilian literature. The student will also find relationships between Brazilian literature and its counterparts in the rest of Latin America.

LLI3021 DISCOURSE ANALYSIS IN TEXTS AND IMAGES

At the end of this course, the student will be able to show the internal organization of discourses in texts, as well as the organizational function of visual messages. The student will be able to interpret different discourses, as well as produce in a creative fashion, texts and images for sociocultural interaction.

LLI3031 LITERARY CREATION SEMINAR (FICTION)

At the end of this course, the student will have the basics to create literary fiction and to reflect on the current conditions of literary writing through criticism and the creation of narrative texts.

LLI3041 AMERICAN LITERATURE

At the end of this course, the student will be able to have a panoramic knowledge of American literature. The student will also find relationships between American literature and its counterparts in the rest of America.

SIXTH SEMESTER

LHC3071 RESEARCH METHODOLOGY

At the end of this course, the student will put into practice theoretical and methodological elements used in scientific research in general, and the specific methods particular to the field of art history.

LLI3051 LITERARY CREATION SEMINAR (POETRY)

At the end of this course, the student will be able to develop a written poetry and to produce pertinent criticism of recent poetic texts.

LLI3061 CARIBBEAN LITERATURE

At the end of this course, the student will be able to get a panoramic view of Caribbean literature; and to compare and contrast the development of Caribbean literature with other Latin American literatures.

LLI3071 SPANISH LITERATURE (1700 – PRESENT DAY)

At the end of this course, the student will be able to summarize the trajectory of Spanish literature from the Enlightenment to the 20th century. The student will also find relationships between this period of Spanish literature and its Latin American counterpart.

LLI3081 MODERN EUROPEAN LITERATURE

At the end of this course, the student will be able to outline the general panorama of the main European fiction and poetry expressions from the 18th to the 20th century. The student will also find relationships between this period of European literature and its Latin American counterpart.

LLI3091 20TH CENTURY MEXICAN LITERATURE (FIRST HALF)

At the end of this course, the student will be able to summarize the trajectory of Mexican literature from Porfirio Díaz to Juan Rufo. The student will also be able to conceptualize the general lines of Mexican culture in the first half of the 20th century.

SEVENTH SEMESTER

LLI4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to identify the problems in cultural administration and do the specific work of a culture administrator.

LLI4021 CRITICISM AND ESSAY WORKSHOP

At the end of this course, the student will be able to write critical reviews of cultural objects and practices. The student will also be able to review literary activity with relation to different contemporary academic and cultural practices.

LLI4031 20TH CENTURY SPANISH-AMERICAN FICTION

At the end of this course, the student will be able to under-

stand the development of Latin American fiction from the abandonment of regionalism to the post-boom. Also, the student will bring into context the social and political emergence of the Latin American boom.

LLI4041 20TH CENTURY MEXICAN LITERATURE (SECOND PART)

At the end of this course, the student will be able to summarize Mexican literature from Octavio Paz and the Half Century (Medio Siglo) generation to recent Mexican works. The student will also be able to conceptualize the general lines of Mexican culture in the second half of the 20th century.

TLI4011 ELECTIVE COURSE I

At the end of this course, the student will be able to reflect on literary creation and delve into the new theoretical proposals regarding literary models and literary criticism.

TLI4021 ELECTIVE COURSE II

At the end of this course, the student will be able to reflect on literary creation and delve into the new theoretical proposals regarding literary models and literary criticism.

EIGHTH SEMESTER

LHE4051 TOPICS AND THEORY OF CURRENT THINKING (*)

At the end of this course, the student will be able to analyze and critique contemporary problems that are redefining, in the academic area, subject matter in disciplines such as philosophy, anthropology or sociology. The student will review readings collected along a topical axis, like "cultural studies," "globalization," "post colonialism" or "Latin American thought," to purposefully synthesize the most prominent texts on these matters, drawing from his/her studies, to take a stand and debate them.

LLI4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to carry out the main functions of editorial work. The student will also be able to understand and conceptualize editorial work as a whole.

LLI4061 20TH CENTURY SPANISH-AMERICAN POETRY

At the end of this course, the student will be able to summarize the Spanish-American poetry panorama of the 20th century, from post-modernism to contemporary poetry. The student will also draw relevant relationships between 20th century Latin American poetry and fiction.

LLI4071 NEW TRENDS IN LATIN AMERICAN LITERATURE

At the end of this course, the student will be able to have a panoramic vision of the most important literary works in Latin America from the end of the 20th century to the present time. The student will also reflect on the relationships between the

editorial market, cultural industries and media with regards to modern literary works.

LLI4081 NEW APPROACHES TO LITERARY STUDIES

At the end of this course, the student will be able to write and paper with the characteristics of an academic research paper. The student will also be able to participate in a collective investigation on a literary theme.

THE4031 ELECTIVE COURSE III

At the end of this course, the student will be able to delve into the study of diverse matters, referring to, or associated with, the Humanities and Cultural Studies Bachelors, and understand the process of shaping, consolidation and modernization of the different social manifestations in the historic cultural evolution.

MUSIC

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX011 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMU1011 MUSIC, FORM AND EXPRESSION (*)

At the end of this course, the student will be able to recognize the basic structures of musical organization, relating them to the historic development of dance, theater, literature and music.

LMU1021 MUSIC THEORY I

At the end of this course, the student will be able to identify, write and analyze notes, clefs, key signature, triads, inversion, rhythms, and measures, and apply this knowledge to the composition of small phrases in a four-voice textual chorale.

LMU1031 REPERTOIRE: STUDY TECHNIQUES I

At the end of this course, the student will be able to study with methods that help him/her improve quickly, memorization techniques, musical works, time management and learning goals.

LMU1041 INSTRUMENT I

At the end of this course, the student will be able to execute etudes and works of the first period of the initial level using the instrument's correct technique.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMU1051 TONAL HARMONY I

At the end of this course, the student will be able to understand and value the application of rules based on classical music repertoire, and applying them to class exercises in the construction of chorales that the student him/herself composes.

LMU1061 MUSIC BEFORE TONALITY

At the end of this course, the student will be able to identify and analyze Western representative works of musical repertoire before the 15th century.

LMU1071 ACOUSTIC TRAINING I

At the end of this course, the student will be able to intone and write rhythmic and rhythmic-melodic and harmonic progression of major and minor primary triad exercises.

LMU1081 POP MUSIC FROM THE BEATLES

At the end of this course, the student will be able to identify and analyze the Beatles' music.

LMU1091 INSTRUMENT II

At the end of this course, the student will be able to execute etudes and works of the second period of the initial level using the instrument's correct technique.

THIRD SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMU2011 TONAL HARMONY II

At the end of this course, the student will be able to identify chords, inversions, non-harmonic tones, modulations and cadences, applying this knowledge to the writing of harmonic progressions of four voices, and to author a short piece that modulates to a close tone and returns to the main tone.

LMU2021 DEVELOPMENT OF TONAL FORMS AND STRUCTURES I

At the end of this course, the student will be able to recognize and analyze representative works of Western musical repertoire from the 17th and 18th centuries.

LMU2031 ACOUSTING TRAINING II

At the end of this course, the student will be able to intone and write rhythmic and rhythmic-melodic exercises that include subdivisions and syncope in simple and compound compasses, as well as harmonic progressions of major and minor primary triads.

LMU2041 REPERTOIRE: STUDY TECHNIQUES II

At the end of this course, the student will be able to study an instrument in the most efficient way to have better results in performances.

LMU2051 INSTRUMENT III

At the end of this course, the student will be able to play a musical instrument and master etudes and musical works that correspond to the first intermediary level.

FOURTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LMU2061 COUNTERPOINT

At the end of this course, the student will be able to solve analysis and creation exercises that deal with harmonic and formal resources of music ranging from Palestrina to J.S.Bach.

LMU2071 DEVELOPMENT OF TONAL FORMS AND STRUCTURES II

At the end of this course, the student will be able to identify and analyze representative works and understand the style changes in music at the end of the 19th century, including its antecedents in the last decades of the 18th century.

LMU2081 ACOUSTIC TRAINING III

At the end of this course, the student will be able to modulate and write rhythmic and rhythmic-melodic exercises which include tonal melodies with some chromatic tones, melodies with close tonal modulations, rhythms with divisions and subdivisions and irregular rhythms.

LMU2091 CHORUS I

At the end of this course, the student will be able to put into practice the essential aspects of chorus interpretation, as well as being able to work together with other members of the chorus both rhythmically and musically to interpret diverse musical styles.

LMU2101 INSTRUMENT IV

At the end of this course, the student will be able to play a musical instrument and master etudes and musical works that correspond to the second intermediary level.

FIFTH SEMESTER

LID1011 EDUCATION THEORY

At the end of this course, the student will be able to sustain, both orally and in writing, his/her philosophical stance regarding education, using the knowledge acquired during the semester on different philosophical trends in education.

LMU3011 CHROMATIC HARMONY I

At the end of this course, the student will be able to solve chromatic harmony exercises, and apply this knowledge in the development of a short musical piece.

LMU3021 CHAMBER MUSIC I

At the end of this course, the student will be able to participate in musical ensembles made up of different instruments, and put into practice essential criteria for good team work.

LMU3031 MUSIC IN THE 20TH AND EARLY 21ST CENTURIES

At the end of this course, the student will be able to identify and describe representative works from a Western musical repertoire of the 20th and 21st centuries, understanding their relationship with historical evolution.

LMU3041 ACOUSTIC TRAINING IV

At the end of this course, the student will be able to relate auditory memory with musical notation. The student will be able to sing and write rhythmic and rhythmic-melodic exercises with chromatic tones, melodies with close tonal modulations, rhythms with divisions and subdivisions and irregular rhythms.

LMU3051 CHORUS II

At the end of this course, the student will be able to participate in recitals and choral concerts, and work collectively in the performance of programs, rehearsals and activities related to a chorus.

LMU3061 INSTRUMENT V

At the end of this course, the student will be able to interpret works with a correct technique and demonstrate execution control in public performances of etudes and other musical works that correspond to a third intermediate level.

SIXTH SEMESTER

LMU3071 CHROMATIC HARMONY II

At the end of this course, the student will be able to identify and analyze representative works of the 20th and 21st centuries, and apply this knowledge to solve exercises based on techniques of these repertoires.

LMU3081 HISTORY OF JAZZ

At the end of this course, the student will be able to identify and analyze representative jazz works from the 20th century.

LMU3091 ACOUSTIC TRAINING V

At the end of this course, the student will be able to relate auditory memory with musical notation. The student will be able to sing and write rhythmic and rhythmic-melodic exercises typical of the 20th century: irregular beats, changes in beat and clef, and modal and atonal melodies

LMU3474 INSTRUMENT VI

At the end of this course, the student will be able to interpret works with a correct technique and demonstrate execution control in public performances of etudes and other musical works that correspond to a fourth intermediate level.

LTE3061 ALTERNATE CONFIGURATION OF SCENIC LANGUAGES II

At the end of this course, the student will be able to present a written well-argued and critical document expressing in a clear and in-depth fashion his/her ideas regarding the link between musical theater and scenery, society and the market.

TMU4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply and correlate the knowledge of a given music topic, from a more specialized point of view.

SEVENTH SEMESTER**LMU3101 PROFESSIONAL PRACTICES I**

At the end of this course, the student will be able to analyze and put in practice planning, execution and production elements required for public presentations of musical ensembles.

LMU4011 MUSICAL ANALYSIS

At the end of this course, the student will be able to identify and analyze representative Western musical works from the 17th to the 19th century.

LMU4021 BASIC COMPOSITION

At the end of this course, the student will be able to compose music for a single instrument and small ensembles, representative of Western musical repertoire from the 20th and 21st centuries.

LMU4031 MUSIC IN MEXICO

At the end of this course, the student will be able to identify the representative repertoire of Mexico, from baroque times to the present.

LMU4041 CHAMBER MUSIC II

At the end of this course, the student will be able to work together with other musicians, with whom he/she will be analyzing and interpreting chamber music that will be played in a public performance.

LMU4061 INSTRUMENT VII

At the end of this course, the student will be able to perform, with interpretive and technical competence, public performances of etudes and musical works that correspond to an advanced level.

TAS4021 ELECTIVE COURSE II

At the end of this course, the student will be able to relate his/her field of study with theories and practices originating from other cultural areas.

EIGHTH SEMESTER**LMU4051 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to apply the resources which will help his/her development as a professional musician, understanding the practical aspects of organization, discipline and careful management of interpersonal relations that a professional musician requires.

LMU4071 ORCHESTRATION

At the end of this course, the student will be able to identify the particular characteristics of every instrument in an orchestra, analyzing and writing arrangements based on Western musical repertoires.

LMU4081 INSTRUMENT VIII

At the end of this course, the student will be able to perform, with interpretive and technical competence, public performances of etudes and musical works that demonstrate the progress achieved during his/her studies.

LMU4101 CHAMBER MUSIC III

At the end of this course, the student will be able to perform a chamber music program, with a minimum of at least 30 minutes. This program will be originally written for group instrumentation

LMU4111 CONDUCTING

At the end of this course, the student will be able to identify the basic techniques of orchestra conduction, which allow him/her to guide and conduct an ensemble.

MKT4011 CULTURAL MARKETING (*)

At the end of this course, the student will be able to understand the options, strategies, methodologies, techniques and materials utilized in the design, planning, production, financing, distribution, promotion, execution and development of scenic or cultural projects, with the end result of combining the theoretical, technical and practical aspects of these projects.

TAS4031 ELECTIVE COURSE III

At the end of this course, the student will be able to relate the knowledge of his/her field of study with the most current theories and points of view regarding art and culture.

THEATER

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMU1011 MUSIC, FORM AND EXPRESSION (*)

At the end of this course, the student will be able to recognize the basic structures of musical organization, relating them to the historic development of dance, theater, literature and music.

LTE1011 ACTING IMPROVISATION

At the end of this course, the student will develop a creative work through different voice and corporal possibilities as a function of important images and personal exploration of emotions and scenic actions.

LTE1021 INTRODUCTION TO THEATER

At the end of this course, the student will be able to present a written or oral well-argued and critical document about some theatrical manifestations, with emphasis on the 20th and 21st centuries, as well as their link to society, economics, market and politics.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LDA1051 ALTERNATIVE TECHNIQUES

At the end of this course, the student will be able to develop mechanisms of alternate techniques to train special abilities with personalized attention to diverse corporalities in accompanying practices to the central structure of the syllabus. At the same time, the student will be able to increase consciousness of the physical instrument by means of artistic expression and to articulate movements of stream of consciousness in his/her level.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LTE1031 ACTING I

At the end of this course, the student will be able to develop a corporal and voice work, linked to the group scenic exercise, with objects and starting from stories and simple scenes, where he/she can show the basic knowledge of technique and emotions.

LTE1041 THEATER HISTORY

At the end of this course, the student will evaluate in written and oral form the individual and group research projects, the different theater models throughout Western history, as well as their links with society, market, economy and politics.

LTE1051 SINGING FOR ACTORS

At the end of this course, the student will develop diverse voice possibilities, with regards to arrangement, projection, tessitura, and resonators, through personal training and by establishing the necessary link with music in order to interpret musical theater repertoires.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LPM1021 CINEMATIC LANGUAGE I

At the end of this course, the student will be able to identify, describe and explain the main myths of the first sixty years of cinema history. The student will write a basic analysis of a movie in accordance with the evolution and use of narrative and cinematic language techniques up to the end of the 1950s.

LTE2011 ACTING II

At the end of this course, the student will develop an acting performance related to classic theater genres, as well as execute brief scenic exercises.

LTE2021 MEXICAN THEATER

At the end of this course, the student will be able to present a written or oral well-argued and critical document expressing in a clear and in-depth fashion his/her ideas regard-

ing the fundamental problems of Mexican theater in the 20th and 21st centuries.

LTE2031 PLAY ANALYSIS METHODS

At the end of this course, the student will be able to present a written well-argued and critical document expressing in a clear and in-depth fashion his/her ideas regarding: structure, and the components of theater plays, interpreting plays and critical approaches to theater.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAP2071 THREE-DIMENSIONAL REPRESENTATION WORKSHOP

At the end of this course, the student will be able to shape three-dimensional forms, identifying the quality of materials, their perceptible appearances, and their spatial and context resolutions, through the relation between the objects within a sculpture context.

LDA1021 BALLET I

At the end of this course, the student that has mastered theoretical and practical concepts in class will be able to achieve a correct body alignment that will facilitate the execution of taught steps and positions, relating corporal connections with space. At the same time, the student will be able to grasp, memorize and correctly execute steps and positions taught in this course.

LTE2041 DRAMATURGY

At the end of this course, the student will be able to develop a written creative work, linking traditional and nontraditional models, and those that challenge theater today, as well as those that are related to movie and/or TV scripts.

LTE2051 ACTING III

At the end of this course, the student will develop a creative work, linking character development and language, which are related to dramatic situations and the weaving of actions and emotions of the staging realized in the parallel course of Scenic Practice I.

LTE2061 STAGE PRACTICE I

At the end of this course, the student will develop a character and his/her relationship in dramatic situations, interweaving the actions and emotional motivations to form part of the staging realized in class.

LTE2071 CONTEMPORARY SCENIC TRENDS II

At the end of this course, the student will be able to present a written well-argued and critical document expressing in a clear and in-depth fashion his/her ideas regarding the

link between gender studies and feminism, and scenery, society and politics.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LAI1011 CONCEPTS AND ARGUMENTS (*)

At the end of this course, the student will be able to define and identify basic concepts of architectural design and to use them in elementary spatial exercises and their graphic representation, with emphasis on the creative process, applying the design methodology offered by the department.

LTE3011 STAGE PRACTICE II

At the end of this course, the student will understand a more complex staging process, than the one realized in FOURTH SEMESTER, being able to maintain the scene during the performance season.

LTE3021 STAGECRAFT

At the end of this course, the student will develop a basic model using creative scenic space, and developing a portfolio with exercises referring to makeup and use of color.

LTE3031 ALTERNATE CONFIGURATION OF SCENIC LANGUAGES I

At the end of this course, the student will be able to present a written well-argued and critical document expressing in a clear and in-depth fashion his/her ideas regarding the link between a performance and scenery, society, culture and politics.

LTE3041 ACTING IV

At the end of this course, the student will develop a creative work, linking character development and language, which are related to dramatic situations and the weaving of actions and emotions of the staging realized in the parallel course of Scenic Practice III.

TTE4011 ELECTIVE COURSE I

At the end of this course, the student will be able to develop a written or oral well-argued and critical document on the topics explained during the course which highlight the link between scenery and technological and digital media.

SIXTH SEMESTER

LPM2061 AUDIOVISUAL PRODUCTION TECHNIQUES

At the end of this course, the student will be able to express

and correlate his/her messages in a creative and concise fashion using video production techniques. The student will develop videos through basic knowledge acquired of the most relevant aspects of each of the stages of the audiovisual production process

LPM2081 RADIO PROGRAMMING

At the end of this course, the student will be able to identify and use the elements of radio language in conjunction with the nature of radio and recognize the phases of pre-production, broadcasting, conduction and production to create successful short formats of radio information.

LTE3051 THEATER DIRECTION

At the end of this course, the student will develop a creative work, linked to team-work and action language in space. The student will direct a theatre staging using the skills learned in class.

LTE3061 ALTERNATE CONFIGURATION OF SCENIC LANGUAGES II

At the end of this course, the student will be able to present a written well-argued and critical document expressing in a clear and in-depth fashion his/her ideas regarding the link between musical theater and scenery, society and the market.

LTE3071 PEDAGOGICAL THEATER

At the end of this course, the student will develop a pedagogical work relating theater games in different teaching levels, up to high school, as an artistic form, which includes personal and social knowledge, and as an aid in the learning-teaching process.

LTE3081 MEDIA ACTING

At the end of this course, the student will be able to develop a physical and intellectually creative work, linking the camera language demands and the microphone, where feelings and a technique related to cinema, television and radio are revealed.

SEVENTH SEMESTER

LTE4011 THEATER DESIGN AND TECHNOLOGY

At the end of this course, the student will be able to develop makeup, wardrobe and theatre lighting designs in a scene staging.

LTE4021 CONTEMPORARY SCENIC TRENDS II

At the end of this course, the student will be able to present a written well-argued and critical document expressing in a clear and in-depth fashion his/her ideas regarding the link between commercial scenes with society and the markets.

LTE4031 THEORETICAL AND CRITICAL SCENE

At the end of this course, the student will be able to present a written well-argued and critical document expressing in a clear and in-depth fashion his/her ideas regarding the main topics of the course.

LTE4041 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to carry out practical work in his/her field of study, which highlights the knowledge and abilities acquired during his/her studies.

TAS4021 ELECTIVE COURSE II

At the end of this course, the student will be able to relate his/her field of study with theories and practices originating from other cultural areas.

TAS4031 ELECTIVE COURSE III

At the end of this course, the student will be able to relate the knowledge of his/her field of study with the most current theories and points of view regarding art and culture.

EIGHTH SEMESTER

LHC4061 ART AND PSYCHOANALYSIS (*)

At the end of this course, the student will be able to define and analyze the reasons to reject or accept psychoanalysis by historical and theoretical art historians. The student will master specific problems of psychoanalysis advanced by Sigmund Freud, as well as his proposals for a psychoanalytic reading of art. In the same way, the student will define and analyze alterations in the concept of the unconscious made by C.G. Jung and his proposal of re-reading artistic processes and art history.

LHC4081 NEW TENDENCIES IN ART HISTORY (*)

At the end of this course, the student will be able to know some of the developments in artistic practice, expository strategies and theoretical proposals in the past two decades. The student will become familiar with new audiovisual syntax that supports contemporary artistic practice.

LTE4051 STAGING

At the end of this course, the student will be able to participate in a pre-professional staging, whose projection entails areas outside the University.

LTE4061 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to carry out practical work in his/her field of study, which highlights the knowledge and abilities acquired during his/her studies.

LTE4071 STAGING WORKSHOP

At the end of this course, the student will be able to participate in a pre-professional staging, whose projection entails areas outside the university.

LHC4081 NEW TENDENCIES IN ART HISTORY (*)

At the end of this course, the student will be able to know some of the developments in artistic practice, expository strategies and theoretical proposals in the past two decades. The student will become familiar with new audiovisual syntax that supports contemporary artistic practice.

LHE4051 TOPICS AND THEORY OF CURRENT THINKING (*)

At the end of this course, the student will be able to analyze and critique contemporary problems that are redefining, in the academic area, subject matter in disciplines such as philosophy, anthropology or sociology. The student will review readings collected along a topical axis, like "cultural studies," "globalization," "post colonialism" or "Latin American thought," to purposefully synthesize the most prominent texts on these matters, drawing from his/her studies, to take a stand and debate them.

THE4031 ELECTIVE COURSE III

At the end of this course, the student will be able to delve into the study of diverse matters, referring to, or associated with, the Humanities and Cultural Studies Bachelors, and understand the process of shaping, consolidation and modernization of the different social manifestations in the historic cultural evolution.

VISUAL INFORMATION DESIGN

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LIV1011 DIGITAL DESIGN FUNDAMENTALS

At the end of this course, the student will be able to create images on computer using specialized software to communicate a visual message to a specific audience, applying the basic theoretical knowledge of images for screen and print, defining in an effective way the adequate parameters for the medium that is being used.

LIV1021 REPRESENTATION FUNDAMENTALS

At the end of this course, the student will be able to represent, through drawings, different forms and figures within a space based on perception analysis. The student will have the ability to increase his/her environment's visual perception through the development of observation and psychomotor skills, using materials, supports, tools and elemental drawing formats. The student will also develop the capacity to understand the relationships between visually perceived forms and the ways to interpret them in a two-dimensional plane.

LIV1031 BASIC ELEMENTS OF A VISUAL MESSAGE

At the end of this course, the student will be able to understand and handle the necessary elements of the visual alphabet to create visual messages based on the aspects of image syntax.

LIV1041 INTRODUCTION TO VISUAL INFORMATION DESIGN

At the end of this course, the student will be able to define his/her own profession, explaining the purposes, scope and field of action of his/her career. The student will understand, handle and use the technical aspects, concepts, terms, authors, trends and other elements that make up the professional language of a visual information designer.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LID2021 COGNITIVE PROCESSES (*)

At the end of this course, the student will be able to create significant and authentic solutions to design problems, through the understanding of cognitive processes carried out by different audiences in the interpretation and appropriation of visual messages.

LIV1051 DEVELOPMENT OF VISUAL CULTURE

At the end of this course, the student will be able to understand visual culture as an area that includes demonstrations of art history and graphic and industrial design, which range from pop culture to cinematic aspects running through conceptual, urban and contemporary art.

LIV1061 CONFIGURATION OF VISUAL MESSAGES

At the end of this course, the student will be able to select and apply the most adequate process of signification to communicate a visual message effectively, starting from visual grammar.

LIV1071 THREE-DIMENSIONAL REPRESENTATION

At the end of this course, the student will be able to identify the characteristics of form, geometric bodies and surfaces that define the space design, exploring the creation of geometric bodies and surfaces, representing bodies in bi-dimensional and three-dimensional orthogonal and isometric projections.

LIV1081 TYPOGRAPHY

At the end of this course, the student will be able to enter the world of language, understanding the evolution that writing, alphabets and typographical families have had throughout history, with the purpose that the student generate typographical designs with an argumentative and aesthetic value.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities

to validate, share, retrieve and use information in an effective and ethical manner.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIV2011 SEMIOTICS (*)

At the end of this course, the student will be able to know and apply the basic principles of semiotics and visual language, as well as to develop the bases to propose production strategies of meaning through the design of messages in visual communication media.

LIV2021 ILLUSTRATION

At the end of this course, the student will be able to develop illustration projects through the use of the main dry and wet graphics, trying to give visual format to a context message of a specific design product.

LIV2031 IDENTITY AND BRAND DESIGN

At the end of this course, the student will be able to recognize the historical perspective of visual brands and identifications and their importance within society. The student will understand and master the development process of an identifier, from planning, creation, development, up to implementation and validation. Also, the student will understand the generation and identity appropriation phenomena that are triggered by brand usage.

LIV2041 EDITORIAL ENGINEERING

At the end of this course, the student will be able to set up editorial products, from the editorial engineering design to its application, layout and creation of printing and web publication files.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIV2051 PHOTOGRAPHY

At the end of this course, the student will be able to dominate with skill and dexterity a professional digital camera, as well as photographic studio equipment to shoot high quality photographs in a studio and outside. Also, the student will be able

to understand the photographic language, understanding it and applying it to plan, produce and evaluate photographs.

LIV2061 EDITORIAL PRODUCTION

At the end of this course, the student will be able to plan, build, and conceptualize editorial products with periodicity. The student will comply with quality design standards, that answer to the needs, likes and preferences of readers and advertisers who obtain a high level of identification with the publication.

LIV2071 ORIENTATION SYSTEMS DESIGN

At the end of this course, the student will be able to adequately analyze and diagnose situations and solutions that guide the user with precise instructions. The student will implement spatial displacement and process operations that require the application of an operating-cognitive decision sequence, taking into account a physical, cultural and social context.

LIV2081 INFOGRAPHICS

At the end of this course, the student will be able to investigate, alone or in a group, a certain event, phenomenon or process in order to create an infography, developing his/her skills within the graphic representation of the concepts. At the same time, the student will be able to generate a visual message in a specific context, and focus in the practice of some of the main digital or analog representation techniques.

LIV2091 VISUAL RHETORIC

At the end of this course, the student will be able to design eloquent, attractive and efficient visual images for the different communication media, using different theories of arguments and persuasion.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LIV3011 ADVANCED EDITING OF THE DIGITAL IMAGE

At the end of this course, the student will be able to edit digital images using specialized software to communicate a visual message for a specific audience. The student will apply the advanced theoretical knowledge in the handling of images for screen and printing, defining the adequate parameters for the reproduction medium.

LIV3021 PRODUCTION IN PRINTED MEDIA

At the end of this course, the student will be able to know the difference between the systems of printed media production, the types of materials and technical requirements needed to recognize the ownership of each system as a solution to a specific production need.

LIV3031 INFORMATION ARCHITECTURE

At the end of this course, the student will be able to develop the capacity to organize and rank, in a logical, systematic and procedural structure, a complex body of information. The student will also develop logical models to structure information flows.

LIV3041 PROMOTION AND PUBLICITY DESIGN

At the end of this course, the student will be able to increase his/her capacity to identify and diagnose promotion problems. The student will design and implement the necessary communication media for the promotion and positioning of products and services, which adapt to specific market conditions.

LLI3021 DISCOURSE ANALYSIS IN TEXTS AND IMAGES

At the end of this course, the student will be able to show the internal organization of discourses in texts, as well as the organizational function of visual messages. The student will be able to interpret different discourses, as well as produce in a creative fashion, texts and images for sociocultural interaction.

SIXTH SEMESTER**LIV3051 DIGITAL REPRESENTATION IN THREE DIMENSIONAL SPACE**

At the end of this course, the student will be able to generate and integrate three dimensional images to design products, using specialized 3D software to communicate a visual message to a particular audience.

LIV3061 EXHIBITION SPACE DESIGN

At the end of this course, the student will be able to design exhibition spaces and elements through prototypes and simulations with the purpose of communicating a message effectively, and through the adaptation of the specific conditions of each project.

LIV3071 WEB DESIGN

At the end of this course, the student will be able to apply his/her theoretical, practical and methodological knowledge for the solution of visual communication problems related to the web. The student will study the conceptualization, planning, production and maintenance of documents published in the web (www). Also, the student will master the tools and technologies that allow the creation of said documents.

LIV3081 EDUCATION MATERIAL DESIGN

At the end of this course, the student will be able to develop projects to solve information problems relative to education processes, diagnosing the situations that require solving through interactive learning operations which help the user accomplish education goals.

LMK2061 MARKET RESEARCH

At the end of this course, the student will be able to identify the importance of market research as a fundamental marketing information tool in companies. The student will know the fundamental guidelines to design market research and measurement methods that allow him/her to study the problems related with marketing goods and services. Also, the student will carry out a quantitative market research to provide relevant data regarding a product or service, to reduce uncertainty in a market's decision-making.

TIV4011 ELECTIVE COURSE I

At the end of this course, the student will be able to assuredly address the selected subjects, with the objective of keeping up-to-date with the topics related to visual information design.

SEVENTH SEMESTER**LIV4011 ORGANIZATIONAL COMMUNICATION DESIGN**

At the end of this course, the student will be able to diagnose specific problems relating to organizational communication with the use of adequate methodologies. The student will develop strategies to solve organizational communication problems, using design methodologies and will learn to evaluate the results of the applied strategies.

LIV4021 INTERACTIVE INTERFACES DESIGN

At the end of this course, the student will be able to apply his/her theoretical, practical and methodological knowledge to solve graphic communication problems related to digital interaction. Also, the student will develop the capacity to explore interactive and multimedia resources to enhance the communication experience in the design and development of modern interactive interfaces.

LIV4031 MOTION GRAPHICS I

At the end of this course, the student will be able to generate sequential images using specialized animation software to transmit a visual message to a particular audience.

LIV4041 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply his/her knowledge and acquire skills by joining a multidisciplinary team to carry out specific tasks in the different areas of visual information design, solving situations and adapting to a new work environment.

LMK2021 INTEGRATED MARKETING COMMUNICATION

At the end of this course, the student will be able to understand the importance of communicating to customers the products or services that are offered, through different tools of integrated marketing communication. The student will apply the knowledge and tools that allow him/her to design integrated communication campaigns.

TIV4021 ELECTIVE COURSE II

At the end of this course, the student will be able to assuredly address the selected subjects, with the objective of keeping up-to-date with the topics related to visual information design.

EIGHTH SEMESTER

LIV4051 DESIGN FOR SOCIAL AND CULTURAL PROMOTION

At the end of this course, the student will be able to develop his/her skills to diagnose situations that require solution through campaigns that promote a social conscience and critical attitudes to the phenomena that shape culture.

LIV4061 INNOVATION AND DESIGN OF EXPERIENCES

At the end of this course, the student will be able to propose design strategies for emotional, creative and innovative experiences based on social interaction for the solution of information problems.

LIV4071 MOTION GRAPHICS II

At the end of this course, the student will be able to generate images and animated graphics for video, using specialized editing and post-production software to communicate a visual message to a particular audience.

LIV4081 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to compare and integrate his/her knowledge, practicing his/herskills and valuing the attitudes that must guide his/her professional conduct. Also, the student will develop a professional portfolio and CV for future job interviews.

LIV4091 ADMINISTRATION AND SELLING OF DESIGN PROJECTS

At the end of this course, the student will be able to develop an integral vision of the methodology of design project development, implementing diverse tools of investigation, analysis and diagnostics, efficacy and efficiency processes, and result measurements as a function of production and costs. These tools will allow the student to find a strategy that allows him/her to commercialize the design object.

TAS4031 ELECTIVE COURSE III

At the end of this course, the student will be able to relate the knowledge of his/her field of study with the most current theories and points of view regarding art and culture.



ACADEMIC PROGRAMS

**SCHOOL OF SOCIAL
SCIENCES**

CLINICAL PSYCHOLOGY

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LB11011 INTRODUCTION TO BIOLOGY

At the end of this course, the student will be able to identify the general principles that determine, define, and characterize living beings. The student will integrate his/her knowledge about diversity and properties emerging from life in a physiochemical evolutionary context.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHE1011 CRITICAL INTRODUCTION TO THE HUMANITIES

At the end of this course, the student will be able to discern the historic conformation of the humanities field and to debate and discern its main transformations and crises.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

PS11011 INTRODUCTION TO PSYCHOLOGY

At the end of this course, the student will be able to identify the relevant topics concerning psychology, as well as the methods to apply them.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LAC1031 GENERAL LINGUISTICS (*)

At the end of this course, the student will be able to master the basic linguistics concepts needed to understand the importance of this area in anthropology. The student is also

able to understand the interrelationship of linguistics to other branches of this discipline.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

PS11021 CHILDHOOD AND ADOLESCENCE PSYCHOLOGY (*)

At the end of this course, the student will be able to recognize the different human facets of conception, birth, childhood and adolescence, as well as the biological, psychological and cultural changes that a person undergoes during his/her childhood and adolescent development. Through this study, the student will develop an integral knowledge of human childhood development.

PS11031 MOTIVATION AND EMOTION

At the end of this course, the student will know the main theories regarding motivation and emotions, and the principal intrinsic and extrinsic motivations that govern conduct. Also, he/she will be able to analyze diverse motivation disorders, and their impacts on a person's health, adhering to the rules of conduct under which a professional must work when studying patients with psychological disorders, always maintaining the highest ethical standards.

PS11041 COGNITIVE PSYCHOLOGY

At the end of this course, the student will use the appropriate perceptual methodology to test a perceptual and attention hypothesis. Also, he/she will be able to use different softwares and methodologies to test hypotheses about higher cognitive processes, following the ethical rules of conduct that govern psychology.

PS11051 PERSONALITY THEORIES

At the end of this course, the student will be able to define what is personality, as well as the theories behind it. He/She will be able to identify the six domains that make up the study of personalities, including their basic theories and constructs as well as the authors who developed them. He/She will also identify the investigations and applications of each domain.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities

to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT2031 DESCRIPTIVE STATISTICS (*)

At the end of this course, the student will understand the basic concepts of mathematical notation used in descriptive data analysis, thus understanding the relationship between statistics and the scientific method to understand and apply descriptive statistical methods in the analysis of social subjects.

PSI2011 ADULT AND GERIATRIC PSYCHOLOGY

At the end of this course, the student will understand the psychological theories regarding adulthood and old age, including the biological, psychological and cultural factors that take part in human development. This will allow him/her to develop psychological intervention projects in this field, maintaining an ethical and social responsibility focus.

PSI2021 FUNCTIONAL ORGANIZATION OF THE NERVOUS SYSTEM

At the end of this course, the student will use the fundamental anatomical and physiological foundations of the main structures that make up the nervous system. This knowledge will allow the student to understand how the cells and the underlying neural communication processes of the nervous system operate. The student will adhere to the rules of conduct under which a professional must work when studying the nervous system of animals or humans, always maintaining the highest ethical standards.

PSI2031 NEUROSCIENCE LAB

At the end of this course, the student will be able to use a vibratome, a microscope with clear camera and stereotaxic equipment with the purpose of performing slices and tinting with the Golgi and Nissl methods, reproducing these slices in paper, extracting and conserving the nervous tissue, and using and interpreting stereotaxic atlases. Also, the student will be able to draft a scientific report that reflects the correct use of electroencephalographic, electrophysiological and biofeedback material and equipment to prove his/her psychophysiology hypothesis.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

MAT2041 STATISTICAL INFERENCE

At the end of this course, the student will be able to use statis-

tical inference tools to apply parametric and non-parametric tests in the systematical analysis of data used in the social sciences.

PSI2041 INTERVIEWING THEORY AND TECHNIQUES

At the end of this course, the student will be able to define, differentiate and recognize the different types of psychological interviews and their characteristics, learning the basic skills to conduct an interview.

PSI2051 SCHOOL PSYCHOLOGY

At the end of this course, the student will describe the purpose and content of school psychology in such a way that he/she recognizes the characteristics of the teaching-learning process, the theories that it is based on, the key elements that influence the education process in the multiple institutional contexts in which it happens (school, family, work, media). In this course, the student will be able to develop reflexive and critical thinking, applying what he/she has learned in a practical situation.

PSI2061 BEHAVIORAL PHYSIOLOGY

At the end of this course, the student will describe the essential knowledge that allows him/her to understand the way in which the activities of the nervous and endocrine systems relate to human behavior. He/She will have a global vision of the structure and function of the main endocrine glands and the interactions they have.

PSI2071 LEARNING AND MEMORY

At the end of this course, the student will be able to describe the main theories and processes that explain learning and memory. Also, he/she will be able to identify the main variables that modify and optimize learning and memory.

PSI2081 LEARNING AND MEMORY LAB

At the end of this course, the student will be able to carry out lab experiments to evaluate the learning and memory processes, describing, controlling and predicting the behavior of organisms.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

PSI3011 PSYCHOPATHOLOGY II

At the end of this course, the student will describe the basic know-how regarding etiology, classification and clinical characteristics, as well as the treatment of common psychotic,

neuropsychotic, developmental, and food-related disorders, focusing on those in which a psychologist intervenes directly.

PSI3021 SOCIAL PSYCHOLOGY

At the end of this course, the student will be able to explain the nature of psychosocial phenomena and the role that the individual has in social relationships.

PSI3031 DRUGS AND BEHAVIOR

At the end of this course, the student will identify the fundamental concepts regarding the properties and effects of chemical substances that affect human behavior, and will describe the basic knowledge regarding the effects of psychotropic drugs and their control mechanisms. He/She will apply the use of the appropriate conceptual tools to detect, evaluate and solve problems related to the behaviors of using and abusing drugs by people. He/She will identify the pharmacological properties of the drugs that affect the functions of the nervous system, as a tool that allows him/her to delve into the know-how of the way they work.

PSI3041 PSYCHOMETRICS

At the end of this course, the student will be able to analyze and develop conventional psychological tests.

TPA4011 ELECTIVE COURSE I

At the end of this course, the student will develop fundamental competencies on relevant psychological subjects, in areas of clinical psychology, organizational psychology, social psychology, school psychology as well as other subjects, delving into the information of specific topics of psychology. The topics will vary according to the student's requirements, as well as the human resources available.

SIXTH SEMESTER

LPA3011 INTRODUCTION TO PSYCHOTHERAPY

At the end of this course, the student will know the diversity of practical applications that clinical focuses have as a theoretical discipline, learning the origins and conditions of its emergence. Also, the student will differentiate the effectiveness of different therapeutic approaches.

LPA3021 DEVELOPMENTAL DISORDERS

At the end of this course, the student will be able to identify the etiology, classification and clinical characteristics and treatments to the most common disorders and handicaps at early ages. Also, the student will be able to evaluate ethical situations that arise during professional practices.

PSI3051 SISTEMATIC BEHAVIORAL ANALYSIS

At the end of this course, the student will be able to pose research problems, develop the control experiment, and use different investigation designs.

PSI3061 PSYCHOPATHOLOGY II

At the end of this course, the student will describe the basic know-how regarding etiology, classification and clinical char-

acteristics, as well as the treatment of common psychotic, neuropsychological, developmental, and food-related disorders, focusing on those in which a psychologist intervenes directly.

PSI3071 PRACTICES AND INVESTIGATION OF SCHOOL PSYCHOLOGY

At the end of this course, the student will be able to apply the practices of the theories set forth regarding school psychology, collaborating in the design and development of psychoeducational interventions, in diverse social circles and with people with handicaps.

PSI3081 EVALUATION OF INTELLECTUAL APTITUDES AND SKILLS

At the end of this course, the student will understand the fundamentals of intellectual aptitudes and skills tests, and will understand, administrate, grade and interpret the results of the techniques used with these tests.

SEVENTH SEMESTER

LPA4011 PSYCHOLOGY AND GENDER

At the end of this course, the student will know the gender differences taking into account mental and physical health. Also, the student will know the organizations and institutions that give support to women and families.

LPA4021 PSYCHODYNAMIC PSYCHOTHERAPY

At the end of this course, the student will apply Freud's psychoanalytic theory and technique as well as learn the current state of the psychoanalytical movement.

LPA4031 COGNITIVE BEHAVIORAL PSYCHOTHERAPY

At the end of this course, the student will be able to describe and know the different cognitive behavioral techniques for intervention that are more frequently used to modify behavior. Also, the student will appreciate the scope of application of his/her skills, and the ethical aspects that must be taken into account, as well as the professional and practical limitations.

LPA4041 HUMANISTIC-EXISTENTIAL PSYCHOTHERAPY

At the end of this course, the student will know the problems presented in human existence, identifying the main constructs and concepts of humanistic-existential theory and techniques. The student will recognize the main advocates of these topics as well as their main contributions

PSI4011 PERSONALITY EVALUATION

At the end of this course, the student will identify the basics of psychometric evaluation of personalities, by knowing, administrating, grading and interpreting their results. This will provide appreciation of the scope of his/her knowledge, and the ethical values that are needed, as well as the practical and professional limitations.

TPA4021 ELECTIVE COURSE II

At the end of this course, the student will develop fundamental competencies on relevant psychological subjects, in areas of clinical psychology, organizational psychology, social psychology, school psychology as well as other subjects, delving into the information of specific topics of psychology. The topics will vary according to the student's requirements, as well as the human resources available.

into the information of specific topics of psychology. The topics will vary according to the student's requirements, as well as the human resources available.

EIGHTH SEMESTER**LPA4051 IDENTITY, COUPLES AND FAMILY**

At the end of this course, the student will be able to evaluate how a family works. The student will know the basic elements to have an effective relationship.

LPA4061 PSYCHOLOGY OF AGGRESSION AND VIOLENCE

At the end of this course, the student will know the main theories regarding aggression and violence, as well as their causes and repercussions. The student will differentiate the main biological, family, social and cultural factors related to aggression and violence. Also, he/she will be able to analyze different physical and mental changes that result from aggressive and violent behavior.

LPA4071 CLINICAL PSYCHOLOGY PRACTICES AND INVESTIGATION

At the end of this course, the student will apply the theoretical knowledge related to diagnostic methods, disorder differentiation, behavior and intervention techniques. The student will detect, evaluate and intervene in an ethical, critical and creative manner in individual and social behavior problems. He/She will also identify the application scope of his/her knowledge, as well as his/her practical and professional limitations.

PSI4021 PRACTICES AND INVESTIGATION IN PSYCHOLOGICAL EVALUATION

At the end of this course, the student will be able to manage, grade and interpret, with the use of software, the following psychometric tests: Kostig, 16 PH, Moss, Terman, and Cleaver. Also, he/she will use the results for the diagnostic evaluation of patients, and to integrate different psychological evaluation reports, with the support of information platforms.

PSI4031 NEUROPSYCHOLOGY

At the end of this course, the student will be able to recognize the cerebral organization of different psychological processes and their disorders, and will be able to diagnose and design interventions in patients with diverse clinical pathologies that affect the central nervous system.

TPA4031 ELECTIVE COURSE III

At the end of this course, the student will develop fundamental competencies on relevant psychological subjects, in areas of clinical psychology, organizational psychology, social psychology, school psychology as well as other subjects, delving

COMMUNICATIONS AND IMAGE

FIRST SEMESTER

ADM1011 INTRODUCTION TO ADMINISTRATION (*)

At the end of this course, the student will be able to describe the nature of administration, its characteristics and dynamic process, and to understand the essence of administration in the working areas of businesses.

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIP1011 INTRODUCTION TO COMMUNICATIONS

At the end of this course, the student will be able to master the basic concepts of communication, and to understand the social, cultural and technological development of media.

LIP2021 INFORMATION AND SOCIETY

At the end of this course, the student will be able to understand social patterns and structures that influence information management in society. The student will base conceptually the different systems of information flow.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIP2061 COMMUNICATION AND EDITORIAL PRODUCTION

At the end of this course, the student will be able to identify, describe and explain the basic principles of editorial product design, such as typography, image edition, use of grids, and diagramming in magazines and newspapers. The student will understand the importance of editorial communication and know how he/she participates within the design of editorial products.

LPM1021 CINEMATIC LANGUAGE I

At the end of this course, the student will be able to identify, describe and explain the main myths of the first sixty years of cinema history. The student will write a basic analysis of a movie in accordance with the evolution and use of narrative and cinematic language techniques up to the end of the 1950s.

LPM1041 INTRODUCTION TO JOURNALISM

At the end of this course, the student will be able to show command over the main theoretical focuses of the study of journalism, and its social relevance, by creating questions and addressing the possible solutions. The student will also be capable of discussing and analyzing the problems with the press in a critical and informed fashion, while having a multi-disciplinary view of media reality.

MAT2031 DESCRIPTIVE STATISTICS (*)

At the end of this course, the student will understand the basic concepts of mathematical notation used in descriptive data analysis, thus understanding the relationship between statistics and the scientific method to understand and apply descriptive statistical methods in the analysis of social subjects.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIP2011 COMMUNICATION THEORIES

At the end of this course, the student will be able to understand the main concepts that explain communication and

information processes in society. The student will value the importance of answering to social needs for communication and information.

LMK1011 MARKETING FUNDAMENTALS (*)

At the end of this course, the student will be able to identify the principles and key elements of marketing (product, price, placement and promotion) to develop a market strategy to create value for customers.

LPM2011 PRODUCTION OF JOURNALISTIC GENRES

At the end of this course, the student will be able to identify and debate on the different elements of journalistic practice and writing, as well as know the ethical principles of its production. The student will also write exercises of the main journalistic genres.

MAT2041 STATISTICAL INFERENCE

At the end of this course, the student will be able to use statistical inference tools to apply parametric and non-parametric tests in the systematical analysis of data used in the social sciences.

FOURTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LIP2031 METHODOLOGICAL PERSPECTIVES OF COMMUNICATION

At the end of this course, the student will be able to handle conceptually and operationally the quantitative investigation processes in communication. The student will carry out a descriptive report of survey results.

LIP2051 FUNCTIONALIST THEORIES OF COMMUNICATION

At the end of this course, the student will be able to describe the functionalist sociological perspective in which the first communication theories were developed in the United States. The student will be able to identify the main theories of effects of mass media communication and their main findings regarding social and psychological impact.

LIV2051 PHOTOGRAPHY

At the end of this course, the student will be able to dominate with skill and dexterity a professional digital camera, as well as photographic studio equipment to shoot high quality photographs in a studio and outside. Also, the student will be able

to understand the photographic language, understanding it and applying it to plan, produce and evaluate photographs.

LMK1021 CONSUMER BEHAVIOR

At the end of this course, the student will be able to understand the behavior of consumers in marketing, understanding the formation and changes of attitude in consumers to create successful market segmentations, and to identify the influential factors in shopping behavior. This information will allow the student to create consumer purchasing process models. LPM2061 AUDIOVISUAL PRODUCTION TECHNIQUES

At the end of this course, the student will be able to express and correlate his/her messages in a creative and concise fashion using video production techniques. The student will develop videos through basic knowledge acquired of the most relevant aspects of each of the stages of the audiovisual production process

LRI1031 CONTEMPORARY MEXICAN POLITICS

At the end of this course, the student will be able to: 1) analyze the development of the Mexican political system from the 1917 Constitution, to present day, and 2) build different periodizations of Mexican politics in the analyzed period, presenting them in a critical manner, the criteria under which they are based.

FIFTH SEMESTER

LID4031 TRAINING FOR THE CRITICAL RECEPTION OF MEDIA

At the end of this course, the student will be able to develop his/her skills of critical reception before the media, using these skills in the analysis of television and digital media messages. Also, the student will design strategies to promote critical reception before the media in different population groups, education areas, both formal and informal.

LIP3011 QUANTITATIVE INVESTIGATION WORKSHOP

At the end of this course, the student will be able to understand and apply in a practical fashion statistical inference and multivariate statistics in the field of opinion and public image. The student will carry out a survey on an opinion or public image using statistical inference or multivariate statistics, assisted by the statistical software "Statistical Package for the Social Sciences".

LIP3021 ORGANIZATIONAL COMMUNICATION

At the end of this course, the student will be able to master the conceptual and operational use of organizational communication, understanding the historic context and elements that include internal and external application of communication in different types of organizations. The student will also be able to design internal communications that favor organizational culture.

LIP3031 CRITICAL THEORIES AND CULTURAL STUDIES

At the end of this course, the student will be able to analyze the patterns, structures and social processes that influence an individual's behavior as information consumer. The student will learn to sustain broadcast systems of critical content or alternative media projects.

LIP3051 QUALITATIVE RESEARCH FUNDAMENTALS

At the end of this course, the student will be able to define the basic concepts related to the approach to research problems from a qualitative perspective (ethnographic). Also, the student will be able to understand the advantages and limitations of qualitative methodologies, and will learn to design public opinion studies using basic in-depth interviews and observational techniques.

LIV3011 ADVANCED EDITING OF THE DIGITAL IMAGE

At the end of this course, the student will be able to edit digital images using specialized software to communicate a visual message for a specific audience. The student will apply the advanced theoretical knowledge in the handling of images for screen and printing, defining the adequate parameters for the reproduction medium.

SIXTH SEMESTER

LDE2021 INFORMATION LAW

At the end of this course, the student will be able to identify the regulatory framework of this branch of law and its fundamental concepts, such as freedom of expression and self-image, and privacy rights. The student will solve practical cases of personal data protection, knowing different methods of contestation and the competent authorities to process them.

LIP3041 COMMUNICATION AND GLOBALIZATION (*)

At the end of this course, the student will be able to explain in a paper the theoretical frameworks to analyze the development of modern globalization and its impact on communication and media within a political, economic and social context. The student will apply the adequate concepts and terms through case analyses focused on the processes of communication and globalization, their interrelation and impact in local, regional and global environments.

LIP3061 COMMUNICATION AND ORGANIZATIONAL DEVELOPMENT

At the end of this course, the student will be able to know the appropriate methods and techniques to identify and creatively solve real external communication problems and needs of organizations and their local, national and global environment. The student will also master the principles related to organizational development, applying them through a concrete analysis of the organization.

LIP3071 CORPORATE IMAGE ASSESSMENT

At the end of this course, the student will be able to correctly

apply the different mechanisms to carry out a corporate image diagnosis of any company or institution. The student will develop an improvement or strengthening proposal, according to the identified need.

LMK2021 INTEGRATED MARKETING COMMUNICATION

At the end of this course, the student will be able to understand the importance of communicating to customers the products or services that are offered, through different tools of integrated marketing communication. The student will apply the knowledge and tools that allow him/her to design integrated communication campaigns.

LPM2051 MULTIMEDIA PRODUCTION

At the end of this course, the student will be able to produce web pages with multimedia content by using different techniques. The student will also modify and adapt to his/her requirements the design and content of template BLOGS, WIKIS or similar websites.

SEVENTH SEMESTER

LIP4011 QUALITATIVE INVESTIGATION WORKSHOP

At the end of this course, the student will be able to effectively apply qualitative investigation techniques such as "group discussions" and "focus groups" and to write finding reports. The student will carry out qualitative studies that involve the analysis of texts and documents using speech analysis technique.

LIP4021 ETHICS AND COMMUNICATION

At the end of this course, the student will be able to understand and value the social structures and processes that influence behavior, adequate or not, of those who manage information and communication systems. The student will learn to sustain the design of adequate communication and dissemination of information systems.

LIP4031 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to demonstrate knowledge and experiences learned during the practices seminar, applying them to skills acquired through professional practices.

LMK3031 MEDIA PLANNING AND BTL

At the end of this course, the student will be able to understand the importance of backing up an integral marketing communication strategy through the proper selection of mass media or alternative communication means. The student will learn to make an adequate media plan that maximizes profits in publicity investment.

LPM4041 DESIGN AND EVALUATION OF COMMUNICATION PROJECTS

At the end of this course, the student will be able to design and evaluate communication or media systems that have a positive impact on the behavior of specific people, groups or

spectators. The student will develop integral media and messaging projects.

TIP4011 ELECTIVE COURSE I

At the end of this course, the student will be able to demonstrate, in both written and oral formats, the knowledge and ability directly related to their concentration, and to give a practical application to the acquired skills.

EIGHTH SEMESTER

LIP4041 COMMUNICATION FOR DEVELOPMENT AND SOCIAL CHANGE

At the end of this course, the student will be able to diagnose the communication and information needs for social development, designing and evaluating communication systems or public awareness strategies to support development and social change in specific previously diagnosed topics.

LIP4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to demonstrate knowledge and experiences learned during the practices seminar, applying them to skills acquired through professional practices.

LIP4061 CRISIS COMMUNICATION

At the end of this course, the student will be able to identify the different theoretical perspectives with which risk or crisis communication is studied. The student will be able to analyze current crisis situations with the purpose of developing a communication model that considers the integral needs of specific broadcasters and audiences.

LMK3061 IMAGE AND PUBLIC RELATIONS

At the end of this course, the student will be able to evaluate and apply basic theories, models, tools and techniques that intervene in public relations, acquiring an integral vision of the area, and valuing the role that public relations play in any organization. The student will also understand the importance that his/her public and professional image and his/her responsible and ethical behavior has in the world.

TIP4021 ELECTIVE COURSE II

At the end of this course, the student will be able to demonstrate, in both written and oral formats, the knowledge and ability directly related to their concentration, and to give a practical application to the acquired skills.

TIP4031 ELECTIVE COURSE III

At the end of this course, the student will be able to demonstrate, in both written and oral formats, the knowledge and ability directly related to their concentration, and to give a practical application to the acquired skills.

COMMUNICATIONS AND MEDIA PRODUCTION

FIRST SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIP1011 INTRODUCTION TO COMMUNICATIONS

At the end of this course, the student will be able to master the basic concepts of communication, and to understand the social, cultural and technological development of media.

LIP2021 INFORMATION AND SOCIETY

At the end of this course, the student will be able to understand social patterns and structures that influence information management in society. The student will base conceptually the different systems of information flow.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LPM1021 CINEMATIC LANGUAGE I

At the end of this course, the student will be able to identify, describe and explain the main myths of the first sixty years of cinema history. The student will write a basic analysis of a movie in accordance with the evolution and use of narrative and cinematic language techniques up to the end of the 1950s.

LPM1031 SOUND LANGUAGE

At the end of this course, the student will be able to design and produce auditory messages with communicative richness through the use of expressive resources of sound code. The student will learn to use the basic phases of analogical and digital equipment for the recording and reproduction of sound.

LPM1041 INTRODUCTION TO JOURNALISM

At the end of this course, the student will be able to show command over the main theoretical focuses of the study of journalism, and its social relevance, by creating questions and addressing the possible solutions. The student will also be capable of discussing and analyzing the problems with the press in a critical and informed fashion, while having a multi-disciplinary view of media reality.

MAT2031 DESCRIPTIVE STATISTICS (*)

At the end of this course, the student will understand the basic concepts of mathematical notation used in descriptive data analysis, thus understanding the relationship between statistics and the scientific method to understand and apply descriptive statistical methods in the analysis of social subjects.

THIRD SEMESTER

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIP2011 COMMUNICATION THEORIES

At the end of this course, the student will be able to understand the main concepts that explain communication and information processes in society. The student will value the importance of answering to social needs for communication and information.

LPM2011 PRODUCTION OF JOURNALISTIC GENRES

At the end of this course, the student will be able to identify and debate on the different elements of journalistic practice and writing, as well as know the ethical principles of its production. The student will also write exercises of the main journalistic genres.

LPM2021 CINEMATIC LANGUAGE II

At the end of this course, the student will be able to identify, describe and explain the main myths of contemporary cinema. The student will also write a review as well as a critical analysis of a movie.

LPM2031 SCREENWRITING

At the end of this course, the student will be able to write a basic analysis of a movie from the point of view of the main script components. The student will also write a short film and a segment of a long film.

MAT2041 STATISTICAL INFERENCE

At the end of this course, the student will be able to use statistical inference tools to apply parametric and non-parametric tests in the systematical analysis of data used in the social sciences.

FOURTH SEMESTER

LIP2031 METHODOLOGICAL PERSPECTIVES OF COMMUNICATION

At the end of this course, the student will be able to handle conceptually and operationally the quantitative investigation processes in communication. The student will carry out a descriptive report of survey results.

LIV2051 PHOTOGRAPHY

At the end of this course, the student will be able to dominate with skill and dexterity a professional digital camera, as well as photographic studio equipment to shoot high quality photographs in a studio and outside. Also, the student will be able to understand the photographic language, understanding it and applying it to plan, produce and evaluate photographs.

LPM2041 JOURNALISM WRITING AND STYLE

At the end of this course, the student will be able to distinguish the main publishing companies in journalism, correcting texts and writing notes as a professional journalist.

LPM2051 MULTIMEDIA PRODUCTION

At the end of this course, the student will be able to produce web pages with multimedia content by using different techniques. The student will also modify and adapt to his/her requirements the design and content of template BLOGS, WIKIS or similar websites.

LPM2061 AUDIOVISUAL PRODUCTION TECHNIQUES

At the end of this course, the student will be able to express and correlate his/her messages in a creative and concise fashion using video production techniques. The student will develop videos through basic knowledge acquired of the most relevant aspects of each of the stages of the audiovisual production process

LPM2071 ADVANCED SCREENWRITING

At the end of this course, the student will be able to write an analysis of independent movies that differ from the classic

model of Hollywood screenwriting. The student will also write an adaptation of a short film, rewrite a short film and/or a segment of a long film.

LPM2081 RADIO PROGRAMMING

At the end of this course, the student will be able to identify and use the elements of radio language in conjunction with the nature of radio and recognize the phases of pre-production, broadcasting, conduction and production to create successful short formats of radio information.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LIP3011 QUANTITATIVE INVESTIGATION WORKSHOP

At the end of this course, the student will be able to understand and apply in a practical fashion statistical inference and multivariate statistics in the field of opinion and public image. The student will carry out a survey on an opinion or public image using statistical inference or multivariate statistics, assisted by the statistical software "Statistical Package for the Social Sciences".

LIV3011 ADVANCED EDITING OF THE DIGITAL IMAGE

At the end of this course, the student will be able to edit digital images using specialized software to communicate a visual message for a specific audience. The student will apply the advanced theoretical knowledge in the handling of images for screen and printing, defining the adequate parameters for the reproduction medium.

LPM3011 DIGITAL AND CITIZEN JOURNALISM

At the end of this course, the student will be able to understand and explain the relevance, as well as the reach and limitation, of digital and citizen journalism. The student will also develop a digital journalism project using new technologies.

LPM3021 ADVANCED RADIO PRODUCTION

At the end of this course, the student will be able to design and propose the production of a special transmission, defining the tasks required for its production. The student will also produce and present radio design proposals in long format.

LPM3031 DIGITAL EDITING

At the end of this course, the student will be able edit a video in a non-linear fashion, using the diverse editing techniques

and focuses. The student will follow an adequate workflow that includes material organization, take evolution, and application of aesthetic and narrative criteria for setup execution.

SIXTH SEMESTER

LDE2021 INFORMATION LAW

At the end of this course, the student will be able to identify the regulatory framework of this branch of law and its fundamental concepts, such as freedom of expression and self-image, and privacy rights. The student will solve practical cases of personal data protection, knowing different methods of contestation and the competent authorities to process them.

LIP3041 COMMUNICATION AND GLOBALIZATION (*)

At the end of this course, the student will be able to explain in a paper the theoretical frameworks to analyze the development of modern globalization and its impact on communication and media within a political, economic and social context. The student will apply the adequate concepts and terms through case analyses focused on the processes of communication and globalization, their interrelation and impact in local, regional and global environments.

LIV3021 PRODUCTION IN PRINTED MEDIA

At the end of this course, the student will be able to know the difference between the systems of printed media production, the types of materials and technical requirements needed to recognize the ownership of each system as a solution to a specific production need.

LND1021 INTRODUCTION TO ANIMATION TECHNIQUES

At the end of this course, the student will be able to recognize and explain the traditional techniques (such as frame by frame, pixilation, and celluloid) and the basics of animation that support digital animation. The student will be able to apply the basic formats of animation techniques.

LPM3041 INVESTIGATIVE JOURNALISM

At the end of this course, the student will be able to provide a written explanation of the different definitions of investigative journalism, as well as their characteristics. He/She will produce an investigative journalism project through the use of the correct phases and most recent tools for gathering information. He/She will also analyze, organize and write the appropriate information for the project.

LPM3061 AUDIOVISUAL PRODUCTION

At the end of this course, the student will be able to express and correlate his/her messages in a creative and concise fashion using video production techniques. The student will develop videos through basic knowledge acquired of the most relevant aspects of each of the stages of the audiovisual production process.

SEVENTH SEMESTER

LIP4011 QUALITATIVE INVESTIGATION WORKSHOP

At the end of this course, the student will be able to effectively apply qualitative investigation techniques such as “group discussions” and “focus groups” and to write finding reports. The student will carry out qualitative studies that involve the analysis of texts and documents using speech analysis technique.

LPM4011 DOCUMENTARY (*)

At the end of this course, the student will be able to do a written analysis of different types of documentaries. The student will also produce a documentary without dialogue and a short documentary.

LPM4021 PROFESSIONAL PRACTICES I

At the end of this course, the student will demonstrate the knowledge and experiences learned during the professional practices, and apply the knowledge and skills acquired through these professional practices.

LPM4031 TELEVISION PRODUCTION

At the end of this course, the student will be able to develop, in written form, a pilot program project, taking into account the target audience, gender and content requirement in a programmatic bar. The student will also take into account, technical, commercial, institutional aspects, and television-production aspects, applying the knowledge and techniques in the pre-production, production and post-production phases.

LPM4041 DESIGN AND EVALUATION OF COMMUNICATION PROJECTS

At the end of this course, the student will be able to design and evaluate communication or media systems that have a positive impact on the behavior of specific people, groups or spectators. The student will develop integral media and messaging projects.

TPM4011 ELECTIVE COURSE I

At the end of this course, the student will be able to demonstrate in orally and in writing, knowledge and abilities related directly to their major, and to apply in a practical fashion the knowledge and abilities acquired through their communication product.

EIGHTH SEMESTER

LIP4041 COMMUNICATION FOR DEVELOPMENT AND SOCIAL CHANGE

At the end of this course, the student will be able to diagnose the communication and information needs for social development, designing and evaluating communication systems or public awareness strategies to support development and social change in specific previously diagnosed topics.

LPM4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will demonstrate the knowledge and experiences learned during the professional practices, and apply the knowledge and skills acquired through these professional practices.

LPM4061 DIGITAL CINEMA

At the end of this course, the student will be able to adequately apply the principles and techniques of cinema in a high-resolution digital video production, with cinematographic style, in a creative and original manner, in documentary and digital video format.

LPM4071 SOUND DESIGN AND EDITING

At the end of this course, the student will be able to edit, synchronize and mix sounds to produce a master (for radio, multimedia, television or movies), and will be able to operate multiple tools that different computer programs have, for the processing and manipulation of sound.

TPM4021 ELECTIVE COURSE II

At the end of this course, the student will be able to demonstrate orally and in writing, knowledge and abilities related directly to their major, and to apply in a practical fashion the knowledge and abilities acquired through their communication product.

TPM4031 ELECTIVE COURSE III

At the end of this course, the student will be able to demonstrate orally and in writing, knowledge and abilities related directly to their major, and to apply in a practical fashion the knowledge and abilities acquired through their communication product.

CULTURAL ANTHROPOLOGY

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LAC1011 INTRODUCTION TO VISUAL ANTHROPOLOGY

At the end of this course, the student will be able to: master photography techniques to document anthropologic research, evaluate such techniques to identify pros and cons of their use, and elaborate and interpret visual images as socio-cultural phenomena.

LAC1021 CULTURE AND SOCIETY

At the end of this course, the student will be able to master, identify and argue about fundamental concepts, data and achievements of ethnology. The student will be able to discern, describe, analyze and compare the great cultural diversity and similarities of social life in human communities.

LAQ1011 GENERAL ARCHEOLOGY

At the end of this course, the student will be able to understand the relationship between archeology and other branches of anthropology, to examine the historic development of archeology, with emphasis on the main theoretical and methodological changes and to discern the techniques used in archeology today.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LAC1031 GENERAL LINGUISTICS (*)

At the end of this course, the student will be able to master the basic linguistics concepts needed to understand the importance of this area in anthropology. The student is also able to understand the interrelationship of linguistics to other branches of this discipline.

LAC1041 WORLD ETHNOLOGY

At the end of this course, the student will be able to rationally and conceptually master the main cultural areas of the world, and the socio-cultural fundamental traits associated with representative societies of each area. The student is also able to analyze cultural diversity in the world.

LAC1051 INTRODUCTION TO ANTHROPOLOGICAL THINKING

At the end of this course, the student will be able to analyze the intellectual history of anthropological thought, from Greco-Roman thinkers to the early emergence of the discipline in the 19th century. The student will be able to evaluate ancient ideas in modern anthropology.

LAQ1021 GENERAL PHYSICAL ANTHROPOLOGY

At the end of this course, the student will be able to know the history of the development of physical anthropology, to analyze how evolution, genetics, and adaptation works, to analyze human evolution, to compare theories about modern variety, and to analyze the relationship between culture and health.

LAQ1031 MESOAMERICAN ARCHEOLOGY I

At the end of this course, the student will be able to: examine, with a general vision, archeological data available for the study of early cultural evolution in Mesoamerica, examine pertinent bibliography, to identify the contributions of important researchers, and to contrast theoretical arguments with the archeological data that support them.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAC2011 LANGUAGE AND CULTURE: NAHUATL

At the end of this course, the student will be able to master the linguistic tools needed to understand historic documents, and to use basic spoken nahuatl for use in the field and for analysis of anthropologic data.

LAC2021 CURRENT TRENDS IN ANTHROPOLOGY

At the end of this course, the student will be able to master the history of anthropologic and social ideas and thought, and to analyze notions related to society and nature in the 20th century. The student will be able to comment and criticize about these topics in a clear and coherent manner.

LAQ2011 MESOAMERICAN ARCHEOLOGY II

At the end of this course, the student will be able to master archeological data to produce a pre-Hispanic chronology and to show fundamental transactions at different time periods in the Mesoamerican cultural area, and to analyze and debate the main processes of social, economic, and political change during the classic and post classic periods.

LAQ2021 PREHISTORY

At the end of this course, the student will be able to analyze recent data on human socio-cultural evolution during the Pleistocene, or ice age, in Africa, Asia and Europe. The student will also develop abilities to understand and evaluate the debate about the role of man in long term change processes, such as climatic change, extinction and innovation.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAC2031 HISTORIC ETHNOLOGY OF MEXICO

At the end of this course, the student will be able to know the historic development of indigenous people from colonial times to the 20th century. The student will be able to analyze their insertion in Spanish colonialism and to develop ideas about changes with the State after Bourbon Reforms and Independence.

LAC2041 FIELD METHODS IN ETHNOLOGY

At the end of this course, the student will be able to identify a social situation and transform it into a research problem, elaborating on relevant categories, relating identified aspects and social actors, generating a logically structured methodological framework, building a set of techniques and a suitable bibliography.

LAC2051 AMERICAN ETHNOLOGY

At the end of this course, the student will be able to master concepts of the main elements of the culture and society of indigenous peoples of the Americas and their cultural areas. The student will be able to analyze basic descriptions of the

most representative groups of each region as well as their cultural achievements.

LAQ2031 ORIGINS OF CIVILIZATION (*)

At the end of this course, the student will be able to identify the variables involved in the birth of cities, monumental architecture, state political organization, institutional religion, socio-economic classes, and writing systems. The student will also review in depth the history of Mesopotamia, Egypt, the Indus Valley and China, to identify strategies and mechanisms used by dominant groups to create and maintain social inequality.

LAQ2051 ETHNOHISTORY

At the end of this course, the student will be able to master the tools and techniques for the study of codices and historic archives in general, and especially those pertinent to Mexico. The student will also be able to identify suitable bibliography and contributions of main researchers in the analysis of an intellectual history of this discipline, in order to relate it to the debate about the most recent factual information.

MAT2031 DESCRIPTIVE STATISTICS (*)

At the end of this course, the student will understand the basic concepts of mathematical notation used in descriptive data analysis, thus understanding the relationship between statistics and the scientific method to understand and apply descriptive statistical methods in the analysis of social subjects.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LAC3021 MODERN ETHNOLOGY OF MEXICO

At the end of this course, the student will be able to identify ways of life, culture and social organization of indigenous peoples of Mesoamerica and Northern Mexico in the current era. The student will understand the relationship between man and environment, linguistic situation, economic, political and social structures that operate within the main indigenous groups, as well as the religious and artistic features pertaining to the position of an ethnic group in national society, stressing the impact of the latter in the development of indigenous groups.

LAC3031 MYTH, MAGIC AND RELIGION

At the end of this course, the student will be able to analyze the intellectual history of the scientific study of mythical, magical and religious beliefs, contrasting and comparing these phenomena in different human societies.

LAC3041 THEORY OF ETHNOLOGY

At the end of this course, the student will be able to master premises, arguments, contributions and limitations of theoretical trends in anthropological debate. The student will be able to analyze, criticize and explain orally central ideas and arguments of a text, discerning and discussing these with other class members in a clear and coherent manner.

LRI2061 LATIN AMERICAN STUDIES

At the end of this course, the student will be able to understand the recent history and politics of Latin American countries, as well as their current dilemmas.

TAC4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of cultural anthropology from an up-to-date point of view.

SIXTH SEMESTER**LAC3051 ECONOMIC AND POLITICAL ANTHROPOLOGY**

At the end of this course, the student will be able to master classic ethnographies of economic and political anthropology, and to identify and criticize different theoretical positions developed for the study of economic and political dimensions of indigenous societies in the world.

LAC3061 LEGAL ANTHROPOLOGY

At the end of this course, the student will be able to identify theories and basic concepts of the legal systems of different societies. The student will be able to analyze changes in methodology and research topics of legal anthropology in the 20th century and to correlate these transformations with changing social and political contexts of ethnographic research.

LAC3071 RURAL ANTHROPOLOGY

At the end of this course, the student will be able to master socio-cultural concepts of the world's rural societies, especially in Latin America, and to compare and contrast theoretical debates generated around rural residents, and their insertion into capitalist societies.

LAC3081 MEDICAL ANTHROPOLOGY

At the end of this course, the student will be able to describe different theoretical trends about health and sickness, analyzing determinant factors in welfare distribution in a society and between different societies. The student will be able to discuss specific social and cultural responses to disease in different societies.

LPM4011 DOCUMENTARY (*)

At the end of this course, the student will be able to do a written analysis of different types of documentaries. The student will also produce a documentary without dialogue and a short documentary.

TAC4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of cultural anthropology from an up-to-date point of view.

SEVENTH SEMESTER**LAC4011 PROFESSIONAL PRACTICES I**

At the end of this course, the student will be able to apply his/her knowledge and ability to take part in multi-disciplinary teams to perform specific tasks in different areas of anthropology, solving problems related to the adjustment to a new working environment.

LAC4021 URBAN ANTHROPOLOGY

At the end of this course, the student will be able to compare the different trends in urban anthropology and to analyze the different players involved, as well as their interaction with the urban environment.

LAC4031 REGIONAL ETHNOLOGY SEMINAR

At the end of this course, the student will be able to choose a topic related to a specific social problem, or to the theory and praxis of anthropology in an ethnographic region, and to criticize written texts. The topic will be selected according to the fields of different professors in this program.

LAC4041 POLITICAL ECOLOGY

At the end of this course, the student will be able to describe different theoretical trends in political ecology identifying economic, political, cultural and social factors favorable to human-environment relationships. The student is also able to analyze the use of theoretical and methodological tools to current human-environment problems.

LAQ4041 RESEARCH DESIGN

At the end of this course, the student will be able to ask a research question, design a project's methodology, and handle the theoretical framework in his/her area of study.

TAC4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of cultural anthropology from an up-to-date point of view.

EIGHTH SEMESTER**LAC4051 PROFESSIONAL PRACTICE II**

At the end of this course, the student will be able to use the acquired knowledge and ability when participating in multi-disciplinary teams to perform specific tasks in different areas of anthropology.

LAC4061 APPLIED ANTHROPOLOGY

At the end of this course, the student will be able to contrast different epistemological trends in applied anthropology, and to identify possible contributions of our discipline to the solution of social problems.

LAC4071 GLOBALIZATION

At the end of this course, the student will be able to analyze the insertion of rural and indigenous “traditional economies” of Mexico into globalization, and to evaluate the impact of the latter on social and productive activities of rural and marginalized groups.

LAC4081 CULTURAL ANTHROPOLOGY SEMINAR

At the end of this course, the student will be able to choose a topic related to a specific social problem, or to current theory and praxis of anthropology, and to criticize written texts. The topic will be selected according to the fields of different professors in this program.

LAC4091 GENDER ANTHROPOLOGY

At the end of this course, the student will be able to analyze a set of social and cultural problems, viewed under a gender perspective, to establish gender criteria based on multiple variables and to comprehensively diagnose specific trans-cultural cases.

LAQ4071 CASE STUDY

At the end of this course, the student will be able to apply methodology in designing his/her research, to analyze and interpret data obtained, and write a research report.

EDUCATIONAL INNOVATION

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX011 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LID1011 EDUCATION THEORY

At the end of this course, the student will be able to sustain, both orally and in writing, his/her philosophical stance regarding education, using the knowledge acquired during the semester on different philosophical trends in education.

LID1021 INNOVATION PROCESSES

At the end of this course, the student will be able to design an innovation project for an organization, selecting and following a methodology and identifying the corresponding theoretical framework.

LID1031 EDUCATIONAL ORGANIZATIONS AND PROCESSES

At the end of this course, the student will be able to identify, in any organization, the basic elements of organizational theory and behavior. The student will be able to relate these elements with the education processes of teaching and learning which could be carried out in each of the identified organizations.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LID1041 CURRICULUM AND SUPERVISION IN EDUCATIONAL ORGANIZATIONS

At the end of this course, the student will be able to carry out the first part of a project to understand and strengthen the fundamentals and structure of a school's syllabus. The student will apply the principles of modern supervision while observing a teacher-student interaction in a classroom.

LID1051 CLASSROOM EDUCATION PROCESSES

At the end of this course, the student will be able to analyze classroom education processes in a school, identifying problems that have a negative effect on learning. The student will design innovative solutions selecting and following methodologies and identifying the corresponding theoretical framework.

LID1061 HISTORY OF EDUCATION IN MEXICO

At the end of this course, the student will be able to link, with supporting documentation, current education events with their historical background. The student will identify possible consequences of current conditions in education, based on similar conditions in Mexico's history.

MAT2031 DESCRIPTIVE STATISTICS (*)

At the end of this course, the student will understand the basic concepts of mathematical notation used in descriptive data analysis, thus understanding the relationship between statistics and the scientific method to understand and apply descriptive statistical methods in the analysis of social subjects.

PSI1021 CHILDHOOD AND ADOLESCENCE PSYCHOLOGY (*)

At the end of this course, the student will be able to recognize the different human facets of conception, birth, childhood and adolescence, as well as the biological, psychological and cultural changes that a person undergoes during his/her childhood and adolescent development. Through this study, the student will develop an integral knowledge of human childhood development.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LID2011 QUANTITATIVE RESEARCH METHODS

At the end of this course, the student will be able to carry out,

on a basic level, projects, applications and reports using quantitative research methods.

LID2021 COGNITIVE PROCESSES (*)

At the end of this course, the student will be able to create significant and authentic solutions to design problems, through the understanding of cognitive processes carried out by different audiences in the interpretation and appropriation of visual messages.

LID2031 ADMINISTRATIVE PROCESSES IN EDUCATION ORGANIZATIONS

At the end of this course, the student will be able to carry out the second part of a project in which, through the application of theoretical principles and organizational behavior, will allow him/her to know, analyze and strengthen non-financial existing administrative purposes.

LID2041 CLASSROOM INNOVATION

At the end of this course, the student will be able to put into practice and evaluate the proposed solutions from the Classroom Education Processes class. The student will write a final report that identifies and discusses problems, proposed solutions, theoretical framework, selected methodologies and results.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LDE1031 LABOR LAW (*)

At the end of this course, the student will be able to apply to concrete cases the rights and obligations that workers and employers have to each other. The student will analyze strike negotiations from worker's and employer's standpoints, as well as identify and solve legal problems linked to norms and regulations of worker-employer relationships, supported by doctrine and jurisprudence.

LID2051 PHENOMENOLOGICAL PARADIGM

At the end of this course, the student will be able to use the phenomenological paradigm to analyze his/her own education experience. The student will be able to interpret the results of education research based on this paradigm. Also, the student will learn to recognize the differences and implication of its use in practical experiences in education, thus understanding the theoretical suppositions and methodology principles.

LID2061 ANALYSIS OF EDUCATIONAL NEEDS IN COMPANIES

At the end of this course, the student will be able to identify education, training and Human Resource development needs

in organizations, applying the corresponding methodologies to guarantee the precision and objectivity of the results.

LID2071 ORGANIZATIONAL DEVELOPMENT: MICRO AND MACRO INTERVENTION

At the end of this course, the student will be able to carry out the first part of a project to understand the components of Organizational Development and how they work. The student will be able to select the ideal model that allows him/her to carry out a diagnostic intervention in the organization of his/her choosing. This diagnosis will identify different problems, of which the student will select one, and propose a solution process in accordance with the organization through a letter of intent.

LID2081 LEARNING WITH TECHNOLOGY

At the end of this course, the student will be able to create, apply and evaluate a learning experience that integrates information and communication technologies as part of the student's learning process and not as information transmitters. The student will identify student characteristics, teaching goals, and teaching and evaluation methods in the corresponding theoretical framework.

LRM1011 SOCIAL PROBLEMS IN MEXICO

At the end of this course, the student will be able to analyze the basis and dimensions of the different social problems Mexico faces by mastering the theoretical frameworks of poverty and social inequality and analyzing the causes of violence and conflict, both political and domestic, as well as the strategies and political actions taken to face such problems.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LID3011 QUALITATIVE RESEARCH METHODS

At the end of this course, the student will be able to carry out an education research project with a qualitative focus, identifying a social phenomenon and selecting the correct qualitative methods and techniques. The student will interpret the results and write a research paper.

LID3021 HUMAN RIGHTS AND INTERCULTURE

At the end of this course, the student will be able to debate about the need for intercultural and human rights as bases of education to build a tolerant, solid and just global society. The student will identify human-rights violations and discriminations in everyday life, and will select education strategies

as solutions. The student will respect cultural, social, ethnic, gender difference through self-awareness of his/her prejudices and personal stances.

LID3031 TRAINING PLAN AND PROGRAM DESIGN

At the end of this course, the student will be able to design training plans that meet the development and/or training needs of an organization. The student will design specific training programs that are feasible in determined contexts and for specific segments of an organization.

LID3041 ORGANIZATIONAL DEVELOPMENT: INTERVENTION SKILLS AND STRATEGIES

At the end of this course, the student will be able to carry out the second part of an intervention project that will allow him/her to know and identify the tools and concepts of organizational development. The student will be able to develop a strategic plan to solve problems where he/she designs and applies the most appropriate tools.

LID3051 INTEGRATION OF ICTS IN ORGANIZATIONS

At the end of this course, the student will be able, through the knowledge and analysis of a change cycle, to know the impact and repercussions of incorporating ICTs on an organization's management, behavior and culture, as a strategic part of the education of individuals and groups.

SIXTH SEMESTER

LID3061 EDUCATIONAL GAMES AND SIMULATIONS

At the end of this course, the student will be able to produce and evaluate an educational game or simulation, using graphic design and pedagogical software, and identifying the student's characteristics, learning goals, teaching methods, and evaluation within the corresponding theoretical framework.

LID3071 LOCAL DEVELOPMENT AND CIVIL SOCIETY

At the end of this course, the student will be able to have an opinion on whether a given program meets with the characteristics of local development, as defined by civilian society, using criteria such as: territory, community players, promotion of local resources, organization and identity strengthening, and cultural and environmental sustainability. The student will evaluate the relevance of education methodologies to strengthen local development which are directed at community groups, producers, women, young people and kids.

LID3081 EMANCIPATED THINKING IN NGOS

At the end of this course, the student will be able to recognize, with intellectual humility, the existence of an alternative thinking paradigm (arising from nongovernmental organizations) which pursues an ethical-social change. The student will compare the differences in neoliberal thinking and the emancipated thinking of NGOs with relation to the concept of development and humankind, education and knowledge, role of citizens and communities in decision-making, ethical-ecological principles, production, human consumption

and work. The student will also scale the impact and diffusion of NGOs thinking in the field of social sciences.

LID3091 INTERNATIONAL COMPARATIVE EDUCATION

At the end of this course, the student will be able to identify the different approaches that are used in comparative education. The student will also research current comparative education topics that are on the global agenda, given society's and education current conditions.

LPT3021 DEVELOPMENT THEORIES AND PRACTICES

At the end of this course, the student will be able to analyze development processes and practices and their sustainability. The student will be able to reflect on and criticize the different theories that development studies have contributed to development situations.

LRI4091 CONTEMPORARY LATIN AMERICA (*)

At the end of this course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary predicaments.

SEVENTH SEMESTER

LID4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply and relate the learning acquired throughout his/her studies, carrying out professional practices in one of the areas of his/her career.

LID4021 LEADERSHIP FOR THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to identify different leadership styles to analyze the consequences of their application in the five factors of knowledge construction. Also, the student will analyze the influence that a leader has on the development of an organization through interaction and coexistence with different organization players, as well as the repercussions that this may have in the effectiveness of organizational activities and the general behavior of people in the organization.

LID4031 TRAINING FOR THE CRITICAL RECEPTION OF MEDIA

At the end of this course, the student will be able to develop his/her skills of critical reception before the media, using these skills in the analysis of television and digital media messages. Also, the student will design strategies to promote critical reception before the media in different population groups, education areas, both formal and informal.

LID4041 COMMUNITY ADVOCATE TRAINING

At the end of this course, the student will be able to detect the strengths and weaknesses of community advocate training programs, according to the criteria of social and cultural belonging, and adult education. The student will use taxonomy

to characterize the desirable profile of a community advocate, recognizing his/her abilities in concrete cases of advocates. The student will master the basic principles to design workshops for training advocates.

LID4051 COMMUNITY PARTICIPATION AND SOLIDARITY NETWORKS

At the end of this course, the student will be able to adequately apply the principles and procedures of participative methodologies to a case study. The student will find basis for the nature and ends of participative methodologies within the framework of adult education and popular education. The student will understand the importance of community social capital in the creation and working of solidarity networks, offering examples of real organizations.

TID4011 ELECTIVE COURSE I

At the end of this course, the student will be able to analyze current topics, selected as to keep the student updated with the diverse aspects that make up educational innovation and its conditions. Given the nature of the course, the given topics will be renewed every semester.

EIGHTH SEMESTER

LID4061 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply and relate the learning acquired throughout his/her studies, carrying out professional practices in one of the areas of his/her career. The student will reflect on his/her actions, tasks and scope as well as the problems he/she found during his/her professional practice.

LID4071 GOVERNMENTAL SOCIAL PROGRAMS

At the end of this course, the student will be able to show the explicit and implicit education dimension of social programs of several state ministries. The student will critique the evaluation approaches of the social programs that predominate in the Government, characterizing the education focus and development paradigm of specific Government social programs.

LID4081 TRAINING STRATEGIES IN SOCIAL PROGRAMS

At the end of this course, the student will be able to identify the education and training strategies of government's social programs and propose changes that correspond to the population's reality from a self-management and critical point of view. Also, the student will apply pedagogical and methodological analyses to the government's social programs targeted to a wide population.

LID4091 INTERNATIONAL AGENCIES AND EDUCATION

At the end of this course, the student will be able to analyze and assess the intergovernmental pacts and agreements sponsored by UNESCO and other inter-American organizations regarding the quality of education. The student will also be able to identify international education trends in multi-

ple sectors such as: infancy, environment, health and sanitation, transparency and governance, housing, migration, human rights, health, women's rights, indigenous people, etc.

TID4021 ELECTIVE COURSE II

At the end of this course, the student will be able to analyze current topics, selected as to keep the student updated with the diverse aspects that make up educational innovation and its conditions. Given the nature of the course, the given topics will be renewed every semester.

TID4031 ELECTIVE COURSE III

At the end of this course, the student will be able to analyze current topics, selected as to keep the student updated with the diverse aspects that make up educational innovation and its conditions. Given the nature of the course, the given topics will be renewed every semester.

INTERNATIONAL RELATIONS

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LPT1011 INTRODUCTION TO POLITICAL SCIENCE (*)

At the end of this course, the student will be able to: 1) understand and apply some of the fundamental principles of political science; and 2) distinguish the main contemporary theoretical trends in this area, as well as their political implications.

LR11011 POLITICAL PHILOSOPHY

At the end of this course, the student will be able to 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 political philosophy; 3) the relationship between the political philosophical ideas, and politics, and 4) the relationship that exists between ideas, institutions, individuals, and interests in the drafting of political policy by the State.

LR11021 INTRODUCTION TO INTERNATIONAL RELATIONS

At the end of this course, the student will be able to: 1) understand and apply the important concepts for the analysis of international relations, and 2) evaluate the relevance of the study of international relations.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LR11031 CONTEMPORARY MEXICAN POLITICS

At the end of this course, the student will be able to: 1) analyze the development of the Mexican political system from the 1917 Constitution, to present day, and 2) build different periodizations of Mexican politics in the analyzed period, presenting them in a critical manner, the criteria under which they are based.

LR11041 INTERNATIONAL RELATIONS HISTORY

At the end of this course, the student will be able to: 1) analyze the development of the international system from its origins up to 1914, and 2) evaluate different interpretations regarding the development of the international system from its origins up to 1914.

LR11051 CONTEMPORARY POLITICAL THEORIES

At the end of this course, the student will be able to identify and analyze: 1) the general guidelines in the study of modern political thinking; 2) the practical relevance of the main ideologies of Western philosophical thinking; 3) the relationship between political ideology and the practice of politics, and 4) the importance of ideologies in humankind's political evolution through time and space.

LR11061 INVESTIGATION METHODS AND TECHNIQUES

At the end of this course, the student will be able to learn the most important theories of research methods and techniques. The student will be able to carry out independent investigation assignments.

MAT2031 DESCRIPTIVE STATISTICS (*)

At the end of this course, the student will understand the basic concepts of mathematical notation used in descriptive data analysis, thus understanding the relationship between statistics and the scientific method to understand and apply descriptive statistical methods in the analysis of social subjects.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LDE3061 PUBLIC INTERNATIONAL LAW

At the end of this course, the student will be able to solve typical problems of international public law, through the interpretation and application of international treaties, based on customs, jurisprudence and general principles of international law.

LEC1011 INTRODUCTION TO ECONOMICS (*)

At the end of this course, the student will be able to understand the essential traits of relevant economic problems and to use the most basic techniques of economic analysis to propose solutions.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LRI2011 CONTEMPORARY WORLD HISTORY

At the end of this course, the student will be able to: 1) analyze the development of the international system from 1914 to the present; and 2) evaluate different interpretations regarding the development of the international system from 1914 to the present.

LRI2021 COMPARATIVE POLITICS

At the end of this course, the student will be able to understand the theoretical foundations of comparative politics and the ways that parliamentary and republican governments have sought to imitate it. He/She will analyze and compare selected examples of types of government of every continent.

FOURTH SEMESTER
AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LRI2031 CONSULAR AND DIPLOMATIC LAW AND PRACTICE

At the end of this course, the student will understand the legal environment surrounding diplomacy in its different phases. The student will know the content, rights and obligations of the Vienna Convention on Diplomatic Relations. He/She will know the actions that Mexico takes with regards to consular protection.

LRI2041 PUBLIC POLICY (*)

At the end of this course, the student will be able to: 1) understand the concept of public policy and its main phases; 2) critically value the public policy approach, the design of the implementation for a solution, and the characteristics of political evaluation.

LRI2051 GEOPOLITICS AND NATURAL RESOURCES

At the end of this course, the student will be able to perform geopolitical analyses of the different regions and countries of the world. He/She will be able to identify the main geopolitical theories and use their ideas in his/her analysis. Also, the student be able to identify the main raw materials of the world today and their projection for the future.

LRI2061 LATIN AMERICAN STUDIES

At the end of this course, the student will be able to understand the recent history and politics of Latin American countries, as well as their current dilemmas.

LRI2071 INTERNATIONAL RELATIONS THEORY

At the end of this course, the student will be able to: 1) evaluate different theories about the actions and interactions of diverse international actors; and 2) apply general proposals that describe and explain different aspects of international relations.

LRI2081 AMERICAN SOCIETY AND POLITICS

At the end of this course, the student will be able to understand the society, government and politics of the United States.

FIFTH SEMESTER
EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LPT3021 DEVELOPMENT THEORIES AND PRACTICES

At the end of this course, the student will be able to analyze development processes and practices and their sustainability. The student will be able to reflect on and criticize the different theories that development studies have contributed to development situations.

LRI3011 MEXICAN FOREIGN POLICY I

At the end of this course, the student will be able to identify and analyze: 1) the general guidelines that Mexican foreign policy has towards North America; 2) the practical relevance of Mexico's foreign policy in agreements between nations; 3) the relationship between Mexican foreign policy and its Canadian and American counterparts; and 4) the importance of political and economic globalization in the foreign policies of Canada, the United States and Mexico.

LRI3021 SUB-SAHARAN AFRICA

At the end of this course, the student will be able to understand the causes of African underdevelopment, as well as the problems that its countries currently face. This course covers the problems of each region of the continent and analyzes their causes.

LRI3031 EUROPEAN UNION

At the end of this course, the student will be able to analyze power processes and dynamics related to the European Union. Also, the student will be able to successfully work in a team.

TRI4011 ELECTIVE COURSE I

At the end of this course, the student will be able to utilize the knowledge acquired to delve into the study and analysis of international politics.

SIXTH SEMESTER**LRI3041 GLOBAL ECONOMIC POLITICS**

At the end of this course, the student will be able to analyze processes and dynamics related to global economic politics, as well as working and collaborating in a team.

LRI3051 SECURITY IN A GLOBAL CONTEXT

At the end of this course, the student will be able to: 1) analyze subjects related to national, international and human security; and 2) evaluate different ways to foment human security. LRI3061 ASIA

At the end of this course, the student will be able to analyze the changes that have happened in Asia, particularly in China, Japan, Korea, Taiwan, India, Sri Lanka and Pakistan. Also, he/she will study the problems that these countries face, such as: Kuril, Senkaku, Spatley and Paracel, as well as their border problems.

LRI3071 AMERICAN FOREIGN POLICY

At the end of this course, the student will be able to: 1) analyze the development of American foreign policy from 1776 to present; and 2) evaluate the different interpretations of American foreign policy from 1776 to the present.

LRI3081 MEXICAN FOREIGN POLICY II

At the end of this course, the student will know the history of Mexico's foreign policy toward Latin America and the rest of the world, focusing on the main historical junctures and contexts.

TRI4021 ELECTIVE COURSE II

At the end of this course, the student will be able to utilize the knowledge acquired to delve into the study and analysis of international politics.

SEVENTH SEMESTER**LDE3071 INTERNATIONAL TRADE LAW**

At the end of this course, the student will be able to solve problems regarding international trade through legal argumentation and the use of applicable legislation and jurisprudence.

LRI4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to put into practice the knowledge acquired to evaluate and take part in the solution of problems and situations related to his/her field of study, establishing a link between theory and practice.

LRI4021 INTERNATIONAL MIGRATION

At the end of this course, the student will be able to identify and analyze: 1) general guidelines for the study of interna-

tional migration; 2) the relevance of the study of contemporary international migration; 3) the relationship between international migratory flows and the exercise of national and transnational politics and 4) the importance of the international migratory flows in the study of world power flows.

LRI4031 HUMAN RIGHTS POLITICS

At the end of this course, the student will be able to reflect and criticize the different theoretical positions that the study of human rights has contributed to analyze current problems. The student will also be capable to have a bearing in the formulation and execution of national and international policies on human rights.

LRI4041 INTERNATIONAL NEGOTIATION

At the end of this course, the student will be able to: 1) understand and apply international negotiation strategies and tactics; 2) analyze and evaluate the qualities of a good international negotiator; and 3) analyze and evaluate the impact of different cultural variables in international negotiation.

TRI4031 ELECTIVE COURSE III

At the end of this course, the student will be able to utilize the knowledge acquired to delve into the study and analysis of international politics.

EIGHTH SEMESTER**LRI4051 PROFESSIONAL PRACTICE II**

At the end of this course, the student will be able to put into practice the knowledge acquired to evaluate and take part in the solution of problems and situations related to his/her field of study, establishing a link between theory and practice.

LRI4061 CANADIAN SOCIETY AND POLITICS

At the end of this course, the student will be able to analyze the political processes and social dynamics related to Canada; The student will also learn to successfully work as a team.

LRI4071 MIDDLE EAST AND MAGHREB

At the end of this course, the student will be able to identify the area and its main problems. The student will understand fundamental Islam and analyze its ramifications in jihadism and salafism. Also, the student will analyze the Arab-Israeli conflict and possible solutions, as well as the democratic movements occurring in this area.

LRI4081 RUSSIA AND ITS ENVIRONMENT

At the end of this course, the student will understand the legal environment surrounding diplomacy, entire content of the Vienna Convention on Diplomatic Relations, will know the new practices with regards to immunity and diplomatic privileges, as well as the actions Mexico takes with regards to consular protection.

LRI4091 CONTEMPORARY LATIN AMERICA (*)

At the end of this course, the student will understand the re-

cent history and politics of Latin American countries, as well as their contemporary predicaments.

LRI4101 GLOBAL GOVERNANCE

At the end of this course, the student will be able to: 1) analyze different global governance mechanisms that have been designed and implemented and 2) evaluate the existing global governance mechanisms and propose a way to improve them.

LAW

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LDE1011 FUNDAMENTAL RIGHTS

At the end of this course, the student will be able to explain in writing the concept, origins, classification and relevance of fundamental rights. The student will identify the main international instrument where they are contained and will handle efficiently legal protection mechanisms at an international and national level.

LDE1021 INTRODUCTION TO LAW AND FUNDAMENTAL OF CIVIL LAW

At the end of this course, the student will be able to actively participate in law drafting, through knowledge of legislative processes and the contents of diverse legal disciplines. The student will differentiate legal institutions related to family and persons in civil law, and solve legal problems through the application of law and jurisprudence.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LPT1011 INTRODUCTION TO POLITICAL SCIENCE (*)

At the end of this course, the student will be able to: 1) understand and apply some of the fundamental principles of political science; and 2) distinguish the main contemporary theoretical trends in this area, as well as their political implications.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LDE1031 LABOR LAW (*)

At the end of this course, the student will be able to apply to concrete cases the rights and obligations that workers and employers have to each other. The student will analyze strike

negotiations from worker's and employer's standpoints, as well as identify and solve legal problems linked to norms and regulations of worker-employer relationships, supported by doctrine and jurisprudence.

LDE1041 CONSTITUTIONAL LAW

At the end of this course, the student will be able to explain, in a critical and principled way, the supremacy and structure of Political Constitution of the United Mexican States (Constitucion Politica de los Estados Unidos Mexicanos). The student will participate actively in simulations of each and every stage of the legislative process included in the Political Constitution of the United Mexican States.

LDE1051 CRIME THEORY

At the end of this course, the student will be able to differentiate the stages of the evolution of penal ideas, be sure about the application of criminal law, differentiate sentences from security measures, as well as to determine their application to concrete cases.

LDE1061 PROPERTY AND INHERITANCE

At the end of this course, the student will be able to pose and solve problems related to interpreting and applying the Civil Code that regulates actual rights, analyzing an open public will under doctrine, law and jurisprudence, in order to determine whether or not it fulfills existence and validity requirements that every legal act must have.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LR11061 INVESTIGATION METHODS AND TECHNIQUES

At the end of this course, the student will be able to learn the most important theories of research methods and techniques. The student will be able to carry out independent investigation assignments.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LDE2011 ENVIRONMENTAL AND HEALTH LAW

At the end of this course, the student will be able to pose and solve problems through the application of health and environmental law, knowing the function of health and environmental institutions in Mexico and the world.

LDE2021 INFORMATION LAW

At the end of this course, the student will be able to identify

the regulatory framework of this branch of law and its fundamental concepts, such as freedom of expression and self-image, and privacy rights. The student will solve practical cases of personal data protection, knowing different methods of contestation and the competent authorities to process them.

LDE2031 GENERAL THEORY OF LIABILITIES

At the end of this course, the student will be able to identify and use norms of Civil Code and Commercial Code (Código Civil and Código de Comercio) to solve problems related to the existence, validity and efficacy of legal acts of a civil and commercial nature.

LDE2041 PARTICULAR CRIMES

At the end of this course, the student will be able to determine specific elements proper to each particular crime and to typify criminal illegal conducts, supported by law and jurisprudence

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LDE2051 CONSTITUTIONAL LITIGATION LAW

At the end of this course, the student will be able to explain the main characteristics and differences between a constitutional controversy and an act of unconstitutionality, as well as drafting a flowchart that contains procedural stages for their processes, in accordance with constitutional article 105 and its regulatory law.

LDE2061 ADMINISTRATIVE LAW

At the end of this course, the student will be able to solve practical cases through interposing a defense to challenge public administration actions that damage the legal sphere of a person, supported by current legislation and interpretation criteria.

LDE2071 INTELLECTUAL PROPERTY LAW

At the end of this course, the student will be able to analyze and use the legal framework of intellectual property rights by approaching and solving practical cases.

LDE2081 CRIMINAL PROCEDURE LAW

At the end of this course, the student will be able to elaborate promotions and activities in a criminal process, participating in evidence presentation, and using these to indict, release or obtain damages.

LDE2091 CIVIL AND COMMERCIAL CONTRACTS

At the end of this course, the student will be able to write and

interpret a typical civil or commercial contract that meets the essential requirements of validity and efficacy needed to yield results.

LRI2041 PUBLIC POLICY (*)

At the end of this course, the student will be able to: 1) understand the concept of public policy and its main phases; 2) critically value the public policy approach, the design of the implementation for a solution, and the characteristics of political evaluation.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LDE3011 CREDIT TITLES AND OPERATIONS

At the end of this course, the student will be able to identify requirements that every credit title must contain to be considered sustainable, and to interpret the provisions of the General Title and Credit Operations Law (Ley General de Títulos y Operaciones de Crédito) that apply for that purpose.

LDE3021 ELECTORAL LAW

At the end of this course, the student will be able to participate actively in the solution of practical cases to contest elections through processing means, information provided by the professor, and support of the pertinent legislation.

LDE3031 CORPORATE LAW

At the end of this course, the student will be able to establish in writing, a strategic plan for the prevention and handling of risk in a particular company and, in its case, to propose methods for its legal defense.

LDE3041 BANKING LAW

At the end of this course, the student will be able to identify and apply norms that regulate the activities of banks and their operations as mediators in credit transactions.

LDE3051 COMPUTER LAW

At the end of this course, the student will be able to establish in writing the concept, nature, characteristics, classification and probative value as proof of electronic documents, in agreement with national and international current doctrine, jurisprudence, and legislation.

SIXTH SEMESTER

LDE3061 PUBLIC INTERNATIONAL LAW

At the end of this course, the student will be able to solve

typical problems of international public law, through the interpretation and application of international treaties, based on customs, jurisprudence and general principles of international law.

LDE3071 INTERNATIONAL TRADE LAW

At the end of this course, the student will be able to solve problems regarding international trade through legal argumentation and the use of applicable legislation and jurisprudence.

LDE3081 TAX LAW

At the end of this course, the student will be able to identify the financial activity of the state and its relationship with individuals, as well as the legal rules that apply to income and public spending.

LDE3091 CIVIL AND COMMERCIAL PROCEDURAL LAW

At the end of this course, the student will be able to formulate, orally and in writing, a demand to exert action to terminate a civil contract that fulfills form, substance and forensic practice. The student will simulate a civil, commerce or family trial in the role of plaintiff, defendant or judge.

LDE3101 PRIVATE INTERNATIONAL LAW

At the end of this course, the student will be able to solve problems derived from international legal exchanges, using the available resources, and explaining the processes contained in the Federal Code of Civil Procedures (Código Federal de Procedimientos Civiles) and in international treaties to acknowledge and execute foreign awards and decisions.

TDE4011 ELECTIVE COURSE I

At the end of this course, the student will be able to relate the knowledge acquired about current events in different branches of law and apply these skills in the resolution of social sciences problems.

SEVENTH SEMESTER

LDE4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to practice acquired knowledge throughout his/her studies to diagnose, evaluate, and participate in solving problems particular to his/her profession, establishing a link between theory and practice, between school and society, and between his/her aspirations and the requirements of his/her environment.

LDE4021 HABEAS CORPUS LAW

At the end of this course, the student will be able to prepare a writ of habeas corpus to contest the illegality of summons in a civil trial, using applicable legislation and jurisprudence.

LDE4031 ALTERNATIVE DISPUTE SOLUTION

At the end of this course, the student will be able to explain the principal characteristics and advantages of mediation, conciliation, and arbitration in a judicial process.

LDE4041 TAX LITIGATION

At the end of this course, the student will be able to draft a comparative table to differentiate and identify process stages and formal requirements of revocation appeal of a contentious administrative trial and habeas corpus in tax matters.

TDE4021 ELECTIVE COURSE II

At the end of this course, the student will be able to relate the knowledge acquired about current events in different branches of law and apply these skills in the resolution of social sciences problems.

TDE4031 ELECTIVE COURSE III

At the end of this course, the student will be able to relate the knowledge acquired about current events in different branches of law and apply these skills in the resolution of social sciences problems.

EIGHTH SEMESTER

LDE4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to practice acquired knowledge throughout his/her studies to diagnose, evaluate, and participate in solving problems particular to his/her profession, establishing a link between theory and practice, between school and society, and between his/her aspirations and the requirements of his/her environment.

LDE4061 INTERNATIONAL CONTRACTS

At the end of this course, the student will be able to identify, describe, and apply the most relevant UNIDROIT principles of international contracts, through the solution of practical cases.

LDE4071 CONSULTING AND TAX PLANNING

At the end of this course, the student will be able to suggest alternatives so taxpayers carry out their activities or convenient legal businesses in such a way that have the lowest tax burden in order to reap the most economic benefits without breaking the applicable legal provisions.

LDE4081 PHILOSOPHY OF LAW

At the end of this course, the student will be able to break up the essential legal concepts of any normative order of positive law, in order to apply them to research as well as to understand how the laws were created.

LDE4091 LEGAL REASONING AND ORAL LITIGATION

At the end of this course, the student will be able to present oral cases, use adequate and coherent questioning in oral trials and develop a legal discourse that comprises exordium, proposal, composition and conclusions using correct terminology.

LDE4101 INTERNATIONAL TRADE ARBITRATION

At the end of this course, the student will be able to solve international trade disputes using internal legislation of comparative laws and international treaties on this subject.

MULTICULTURAL RELATIONS

FIRST SEMESTER

ADM1011 INTRODUCTION TO ADMINISTRATION (*)

At the end of this course, the student will be able to describe the nature of administration, its characteristics and dynamic process, and to understand the essence of administration in the working areas of businesses.

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LAC1021 CULTURE AND SOCIETY

At the end of this course, the student will be able to master, identify and argue about fundamental concepts, data and achievements of ethnology. The student will be able to discern, describe, analyze and compare the great cultural diversity and similarities of social life in human communities.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LRI1021 INTRODUCTION TO INTERNATIONAL RELATIONS

At the end of this course, the student will be able to: 1) understand and apply the important concepts for the analysis of international relations, and 2) evaluate the relevance of the study of international relations.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ECO1011 INTRODUCTION TO MICROECONOMICS

At the end of this course, the student will be able to handle the basic elements of economic analysis, with emphasis on their use as decision makers for consumers and companies.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LAC1051 INTRODUCTION TO ANTHROPOLOGICAL THINKING

At the end of this course, the student will be able to analyze the intellectual history of anthropological thought, from Greco-Roman thinkers to the early emergence of the discipline in the 19th century. The student will be able to evaluate ancient ideas in modern anthropology.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LFP1011 FINANCIAL ACCOUNTING (*)

At the end of this course, the student will be able to identify and analyze different types of organizations and diverse financial statements relevant and useful for adequate decision making. The student will also learn to identify and define an exact outlook of accounting in business and its importance to control its results.

LRI2071 INTERNATIONAL RELATIONS THEORY

At the end of this course, the student will be able to: 1) evaluate different theories about the actions and interactions of diverse international actors; and 2) apply general proposals that describe and explain different aspects of international relations.

LRM1011 SOCIAL PROBLEMS IN MEXICO

At the end of this course, the student will be able to analyze the basis and dimensions of the different social problems Mexico faces by mastering the theoretical frameworks of poverty and social inequality and analyzing the causes of violence and conflict, both political and domestic, as well as the strategies and political actions taken to face such problems.

THIRD SEMESTER

ECO1021 INTRODUCTION TO MACROECONOMICS

At the end of this course, the student will be able to identify, define, and use main variables of economic analysis in the short and long term.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAC2021 CURRENT TRENDS IN ANTHROPOLOGY

At the end of this course, the student will be able to master the history of anthropologic and social ideas and thought, and to analyze notions related to society and nature in the 20th century. The student will be able to comment and criticize about these topics in a clear and coherent manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMK1011 MARKETING FUNDAMENTALS (*)

At the end of this course, the student will be able to identify the principles and key elements of marketing (product, price, placement and promotion) to develop a market strategy to create value for customers.

LRI2051 GEOPOLITICS AND NATURAL RESOURCES

At the end of this course, the student will be able to perform geopolitical analyses of the different regions and countries of the world. He/She will be able to identify the main geopolitical theories and use their ideas in his/her analysis. Also, the student be able to identify the main raw materials of the world today and their projection for the future.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAC1041 WORLD ETHNOLOGY

At the end of this course, the student will be able to rationally and conceptually master the main cultural areas of the world, and the socio-cultural fundamental traits associated with representative societies of each area. The student is also able to analyze cultural diversity in the world.

LAD1021 HUMAN BEHAVIOR IN ORGANIZATIONS

At the end of this course, the student will be able to develop and foster the understanding of people in organizations, to gain an assertive posture in interactions, thus contributing to organizational objectives.

LDE3061 PUBLIC INTERNATIONAL LAW

At the end of this course, the student will be able to solve typical problems of international public law, through the interpretation and application of international treaties, based on customs, jurisprudence and general principles of international law.

LIP3041 COMMUNICATION AND GLOBALIZATION (*)

At the end of this course, the student will be able to explain in a paper the theoretical frameworks to analyze the development of modern globalization and its impact on communication and media within a political, economic and social context. The student will apply the adequate concepts and terms through case analyses focused on the processes of communication and globalization, their interrelation and impact in local, regional and global environments.

LMK3051 PRICING STRATEGY

At the end of this course, the student will be able to identify the strategic role of pricing in marketing decisions, as well as its relation with commercial decisions in the creation of value and competitive advantage. Also, the student will be able to integrate the knowledge acquired in economics, finance, operations and marketing in the use of approaches and tools for pricing.

LNI1021 ECONOMIC GEOGRAPHY AND DEVELOPMENT EXPECTATIONS

At the end of this course, the student will be able to identify the different globalization processes, as well as the issues related to economic, social and political aspects that developing or emerging countries face.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LAC4061 APPLIED ANTHROPOLOGY

At the end of this course, the student will be able to contrast different epistemological trends in applied anthropology, and to identify possible contributions of our discipline to the solution of social problems.

LAD2021 STRATEGIC MANAGEMENT OF HUMAN RESOURCES

At the end of this course, the student will be able to analyze and apply the most important concepts and functions of strategic management of human resources within organizations. The student will be able to develop skills to solve human resource problems.

LPM2041 JOURNALISM WRITING AND STYLE

At the end of this course, the student will be able to distinguish the main publishing companies in journalism, correcting texts and writing notes as a professional journalist.

LRM3011 ANCIENT MESOAMERICA

At the end of this course, the student will create a framework of the different paradigms used in the study of Mexico's Pre-Hispanic history, analyzing the uses of Pre-Hispanic heritage and evaluating the relationship between empirical data and the theoretical constructs that surround the emergence of complex societies in Mesoamerica. Also, the course will involve the study of the main processes involved in the emergence of social inequality.

TRM4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply and correlate the current events information given on any of the following subjects: anthropology, communication, business or international relations.

SIXTH SEMESTER

LAC3081 MEDICAL ANTHROPOLOGY

At the end of this course, the student will be able to describe different theoretical trends about health and sickness, analyzing determinant factors in welfare distribution in a society and between different societies. The student will be able to discuss specific social and cultural responses to disease in different societies.

LAQ3061 PRE-HISPANIC ART AND ARCHITECTURE (*)

At the end of this course, the student will be able to: identify the different styles in terms of time and space, generate a specific and detailed vision of symbol systems used by different cultures in pre-Hispanic Mesoamerica, including the development of regional and international styles, historic meaning of traits and political and religious ideology, and distinguish the intellectual history from the study of pre-Hispanic art.

LNI1031 INTERCULTURAL MANAGEMENT

At the end of this course, the student will be able to understand the cultural heterogeneity of the modern work from a polycentric point of view, through the acquisition of the necessary basic concepts to identify the main cultural differences between countries.

LPM3041 INVESTIGATIVE JOURNALISM

At the end of this course, the student will be able to provide a written explanation of the different definitions of investigative journalism, as well as their characteristics. He/She will produce an investigative journalism project through the use of the correct phases and most recent tools for gathering information. He/She will also analyze, organize and write the appropriate information for the project.

LRI4091 CONTEMPORARY LATIN AMERICA (*)

At the end of this course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary predicaments.

TRM4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply and correlate the current events information given on any of the following subjects: anthropology, communication, business or international relations.

SEVENTH SEMESTER

LAC3051 ECONOMIC AND POLITICAL ANTHROPOLOGY

At the end of this course, the student will be able to master classic ethnographies of economic and political anthropology, and to identify and criticize different theoretical positions developed for the study of economic and political dimensions of indigenous societies in the world.

LAC3061 LEGAL ANTHROPOLOGY

At the end of this course, the student will be able to identify theories and basic concepts of the legal systems of different societies. The student will be able to analyze changes in methodology and research topics of legal anthropology in the 20th century and to correlate these transformations with changing social and political contexts of ethnographic research.

LAC4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply his/her knowledge and ability to take part in multi-disciplinary teams to perform specific tasks in different areas of anthropology, solving problems related to the adjustment to a new working environment.

LIP4041 COMMUNICATION FOR DEVELOPMENT AND SOCIAL CHANGE

At the end of this course, the student will be able to diagnose the communication and information needs for social development, designing and evaluating communication systems or public awareness strategies to support development and social change in specific previously diagnosed topics.

LRI4101 GLOBAL GOVERNANCE

At the end of this course, the student will be able to: 1) analyze different global governance mechanisms that have been designed and implemented and 2) evaluate the existing global governance mechanisms and propose a way to improve them.

TRM4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply and correlate the current events information given on any of the following subjects: anthropology, communication, business or international relations.

EIGHTH SEMESTER

LAC4051 PROFESSIONAL PRACTICE II

At the end of this course, the student will be able to use the acquired knowledge and ability when participating in multi-disciplinary teams to perform specific tasks in different areas of anthropology.

LAQ4071 CASE STUDY

At the end of this course, the student will be able to apply methodology in designing his/her research, to analyze and interpret data obtained, and write a research report.

LDE1011 FUNDAMENTAL RIGHTS

At the end of this course, the student will be able to explain in writing the concept, origins, classification and relevance of fundamental rights. The student will identify the main inter-

national instrument where they are contained and will handle efficiently legal protection mechanisms at an international and national level.

LID4041 COMMUNITY ADVOCATE TRAINING

At the end of this course, the student will be able to detect the strengths and weaknesses of community advocate training programs, according to the criteria of social and cultural belonging, and adult education. The student will use taxonomy to characterize the desirable profile of a community advocate, recognizing his/her abilities in concrete cases of advocates. The student will master the basic principles to design workshops for training advocates.

LPM4011 DOCUMENTARY (*)

At the end of this course, the student will be able to do a written analysis of different types of documentaries. The student will also produce a documentary without dialogue and a short documentary.

LRI4041 INTERNATIONAL NEGOTIATION

At the end of this course, the student will be able to: 1) understand and apply international negotiation strategies and tactics; 2) analyze and evaluate the qualities of a good international negotiator; and 3) analyze and evaluate the impact of different cultural variables in international negotiation.

ORGANIZATIONAL PSYCHOLOGY

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LBI1011 INTRODUCTION TO BIOLOGY

At the end of this course, the student will be able to identify the general principles that determine, define, and characterize living beings. The student will integrate his/her knowledge about diversity and properties emerging from life in a physiochemical evolutionary context.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHE1011 CRITICAL INTRODUCTION TO THE HUMANITIES

At the end of this course, the student will be able to discern the historic conformation of the humanities field and to debate and discern its main transformations and crises.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

PSI1011 INTRODUCTION TO PSYCHOLOGY

At the end of this course, the student will be able to identify the relevant topics concerning psychology, as well as the methods to apply them.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LAC1031 GENERAL LINGUISTICS (*)

At the end of this course, the student will be able to master the basic linguistics concepts needed to understand the importance of this area in anthropology. The student is also able to understand the interrelationship of linguistics to other branches of this discipline.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

PSI1021 CHILDHOOD AND ADOLESCENCE PSYCHOLOGY (*)

At the end of this course, the student will be able to recognize the different human facets of conception, birth, childhood and adolescence, as well as the biological, psychological and cultural changes that a person undergoes during his/her childhood and adolescent development. Through this study, the student will develop an integral knowledge of human childhood development.

PSI1031 MOTIVATION AND EMOTION

At the end of this course, the student will know the main theories regarding motivation and emotions, and the principal intrinsic and extrinsic motivations that govern conduct. Also, he/she will be able to analyze diverse motivation disorders, and their impacts on a person's health, adhering to the rules of conduct under which a professional must work when studying patients with psychological disorders, always maintaining the highest ethical standards.

PSI1041 COGNITIVE PSYCHOLOGY

At the end of this course, the student will use the appropriate perceptual methodology to test a perceptual and attention hypothesis. Also, he/she will be able to use different softwares and methodologies to test hypotheses about higher cognitive processes, following the ethical rules of conduct that govern psychology.

PSI1051 PERSONALITY THEORIES

At the end of this course, the student will be able to define what is personality, as well as the theories behind it. He/She will be able to identify the six domains that make up the study of personalities, including their basic theories and constructs as well as the authors who developed them. He/She will also identify the investigations and applications of each domain.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT2031 DESCRIPTIVE STATISTICS (*)

At the end of this course, the student will understand the basic concepts of mathematical notation used in descriptive data analysis, thus understanding the relationship between statistics and the scientific method to understand and apply descriptive statistical methods in the analysis of social subjects.

PSI2011 ADULT AND GERIATRIC PSYCHOLOGY

At the end of this course, the student will understand the psychological theories regarding adulthood and old age, including the biological, psychological and cultural factors that take part in human development. This will allow him/her to develop psychological intervention projects in this field, maintaining an ethical and social responsibility focus.

PSI2021 FUNCTIONAL ORGANIZATION OF THE NERVOUS SYSTEM

At the end of this course, the student will use the fundamental anatomical and physiological foundations of the main structures that make up the nervous system. This knowledge will allow the student to understand how the cells and the underlying neural communication processes of the nervous system operate. The student will adhere to the rules of conduct under which a professional must work when studying the nervous system of animals or humans, always maintaining the highest ethical standards.

PSI2031 NEUROSCIENCE LAB

At the end of this course, the student will be able to use a vibratome, a microscope with clear camera and stereotaxic equipment with the purpose of performing slices and tinting with the Golgi and Nissl methods, reproducing these slices in paper, extracting and conserving the nervous tissue, and using and interpreting stereotaxic atlases. Also, the student will be able to draft a scientific report that reflects the correct use of electroencephalographic, electrophysiological and biofeedback material and equipment to prove his/her psychophysiology hypothesis.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

MAT2041 STATISTICAL INFERENCE

At the end of this course, the student will be able to use statistical inference tools to apply parametric and non-parametric tests in the systematical analysis of data used in the social sciences.

PSI2041 INTERVIEWING THEORY AND TECHNIQUES

At the end of this course, the student will be able to define, differentiate and recognize the different types of psychological interviews and their characteristics, learning the basic skills to conduct an interview.

PSI2051 SCHOOL PSYCHOLOGY

At the end of this course, the student will describe the purpose and content of school psychology in such a way that he/she recognizes the characteristics of the teaching-learning process, the theories that it is based on, the key elements that influence the education process in the multiple institutional contexts in which it happens (school, family, work, media). In this course, the student will be able to develop reflexive and critical thinking, applying what he/she has learned in a practical situation.

PSI2061 BEHAVIORAL PHYSIOLOGY

At the end of this course, the student will describe the essential knowledge that allows him/her to understand the way in which the activities of the nervous and endocrine systems relate to human behavior. He/She will have a global vision of the structure and function of the main endocrine glands and the interactions they have.

PSI2071 LEARNING AND MEMORY

At the end of this course, the student will be able to describe the main theories and processes that explain learning and memory. Also, he/she will be able to identify the main variables that modify and optimize learning and memory.

PSI2081 LEARNING AND MEMORY LAB

At the end of this course, the student will be able to carry out lab experiments to evaluate the learning and memory processes, describing, controlling and predicting the behavior of organisms.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

PSI3011 PSYCHOPATHOLOGY II

At the end of this course, the student will describe the basic know-how regarding etiology, classification and clinical characteristics, as well as the treatment of common psychotic, neuropsychotic, developmental, and food-related disorders, focusing on those in which a psychologist intervenes directly.

PSI3021 SOCIAL PSYCHOLOGY

At the end of this course, the student will be able to explain the nature of psychosocial phenomena and the role that the individual has in social relationships.

PSI3031 DRUGS AND BEHAVIOR

At the end of this course, the student will identify the fun-

damental concepts regarding the properties and effects of chemical substances that affect human behavior, and will describe the basic knowledge regarding the effects of psychotropic drugs and their control mechanisms. He/She will apply the use of the appropriate conceptual tools to detect, evaluate and solve problems related to the behaviors of using and abusing drugs by people. He/She will identify the pharmacological properties of the drugs that affect the functions of the nervous system, as a tool that allows him/her to delve into the know-how of the way they work.

PSI3041 PSYCHOMETRICS

At the end of this course, the student will be able to analyze and develop conventional psychological tests.

TPO4011 ELECTIVE COURSE I

At the end of this course, the student will develop fundamental competencies on relevant psychological subjects, in areas of clinical psychology, organizational psychology, social psychology, school psychology as well as other subjects, delving into the information of specific topics of psychology. The topics will vary according to the student's requirements, as well as the human resources available.

SIXTH SEMESTER

LPO3011 CONSUMER PSYCHOLOGY

At the end of this course, the student will formulate criteria to discuss, analyze and apply the marketing principles of opportunity analysis, decision capacity required to market products, prices, distribution, promotion and environment. The student will also be able to make strategic decisions in the use and fabrication of a product.

LPO3021 LEADERSHIP AND DECISION-MAKING

At the end of this course, the student will identify decision-making techniques, the characteristics that define a leader, the options to exercise proper leadership and the display of these skills in organizations, as well as their importance in current society.

PSI3051 SISTEMATIC BEHAVIORAL ANALYSIS

At the end of this course, the student will be able to pose research problems, develop the control experiment, and use different investigation designs.

PSI3061 PSYCHOPATHOLOGY II

At the end of this course, the student will describe the basic know-how regarding etiology, classification and clinical characteristics, as well as the treatment of common psychotic, neuropsychological, developmental, and food-related disorders, focusing on those in which a psychologist intervenes directly.

PSI3071 PRACTICES AND INVESTIGATION OF SCHOOL PSYCHOLOGY

At the end of this course, the student will be able to apply the practices of the theories set forth regarding school psychol-

ogy, collaborating in the design and development of psycho-educational interventions, in diverse social circles and with people with handicaps.

PSI3081 EVALUATION OF INTELLECTUAL APTITUDES AND SKILLS

At the end of this course, the student will understand the fundamentals of intellectual aptitudes and skills tests, and will understand, administrate, grade and interpret the results of the techniques used with these tests.

SEVENTH SEMESTER

LDE1031 LABOR LAW (*)

At the end of this course, the student will be able to apply to concrete cases the rights and obligations that workers and employers have to each other. The student will analyze strike negotiations from worker's and employer's standpoints, as well as identify and solve legal problems linked to norms and regulations of worker-employer relationships, supported by doctrine and jurisprudence.

LID2071 ORGANIZATIONAL DEVELOPMENT: MICRO AND MACRO INTERVENTION

At the end of this course, the student will be able to carry out the first part of a project to understand the components of Organizational Development and how they work. The student will be able to select the ideal model that allows him/her to carry out a diagnostic intervention in the organization of his/her choosing. This diagnosis will identify different problems, of which the student will select one, and propose a solution process in accordance with the organization through a letter of intent.

LPO4011 INDUSTRIAL / ORGANIZATIONAL PSYCHOLOGY

At the end of this course, the student will know and handle the bases and techniques of personnel selection, evaluation and training processes in industrial psychology. He/She will also acquire the required knowledge to describe, discuss and apply the principles of psychology used in companies to make work more human and better the quality of working life.

LPO4021 PERSONNEL PSYCHOLOGY AND DEVELOPMENT

At the end of this course, the student will know, handle and apply the principles, techniques and methodologies that support, promote and control the full development of a person in a company.

PSI4011 PERSONALITY EVALUATION

At the end of this course, the student will identify the basics of psychometric evaluation of personalities, by knowing, administrating, grading and interpreting their results. This will provide appreciation of the scope of his/her knowledge, and the ethical values that are needed, as well as the practical and professional limitations.

TPO4021 ELECTIVE COURSE II

At the end of this course, the student will develop fundamental competencies on relevant psychological subjects, in areas of clinical psychology, organizational psychology, social psychology, school psychology as well as other subjects, delving into the information of specific topics of psychology. The topics will vary according to the student's requirements, as well as the human resources available.

EIGHTH SEMESTER**LID3041 ORGANIZATIONAL DEVELOPMENT:
INTERVENTION SKILLS AND STRATEGIES**

At the end of this course, the student will be able to carry out the second part of an intervention project that will allow him/her to know and identify the tools and concepts of organizational development. The student will be able to develop a strategic plan to solve problems where he/she designs and applies the most appropriate tools.

LPO4031 GROUP COUNSELING

At the end of this course, the student will have the knowledge that will allow him/her to understand the workings of small groups. Also, he/she will acquire group experiences through group dynamics developed in class.

**LPO4041 PRACTICES AND RESEARCH IN SOCIAL AND
ORGANIZATIONAL PSYCHOLOGY**

At the end of this course, the student will apply the knowledge acquired in previous courses, such as social psychology and industrial/organizational psychology, putting them to use in supervised social and organizational fields.

**PSI4021 PRACTICES AND INVESTIGATION IN
PSYCHOLOGICAL EVALUATION**

At the end of this course, the student will be able to manage, grade and interpret, with the use of software, the following psychometric tests: Kostig, 16 PH, Moss, Terman, and Cleaver. Also, he/she will use the results for the diagnostic evaluation of patients, and to integrate different psychological evaluation reports, with the support of information platforms.

PSI4031 NEUROPSYCHOLOGY

At the end of this course, the student will be able to recognize the cerebral organization of different psychological processes and their disorders, and will be able to diagnose and design interventions in patients with diverse clinical pathologies that affect the central nervous system.

TPO4031 ELECTIVE COURSE III

At the end of this course, the student will develop fundamental competencies on relevant psychological subjects, in areas of clinical psychology, organizational psychology, social psychology, school psychology as well as other subjects, delving into the information of specific topics of psychology. The topics will vary according to the student's requirements, as well as the human resources available.

POLITICAL SCIENCE

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LPT1011 INTRODUCTION TO POLITICAL SCIENCE (*)

At the end of this course, the student will be able to: 1) understand and apply some of the fundamental principles of political science; and 2) distinguish the main contemporary theoretical trends in this area, as well as their political implications.

LR11011 POLITICAL PHILOSOPHY

At the end of this course, the student will be able to 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 political philosophy; 3) the relationship between the political philosophical ideas, and politics, and 4) the relationship that exists between ideas, institutions, individuals, and interests in the drafting of political policy by the State.

LR11021 INTRODUCTION TO INTERNATIONAL RELATIONS

At the end of this course, the student will be able to: 1) understand and apply the important concepts for the analysis of international relations, and 2) evaluate the relevance of the study of international relations.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LR11031 CONTEMPORARY MEXICAN POLITICS

At the end of this course, the student will be able to: 1) analyze the development of the Mexican political system from the 1917 Constitution, to present day, and 2) build different periodizations of Mexican politics in the analyzed period, presenting them in a critical manner, the criteria under which they are based.

LR11041 INTERNATIONAL RELATIONS HISTORY

At the end of this course, the student will be able to: 1) analyze the development of the international system from its origins up to 1914, and 2) evaluate different interpretations regarding the development of the international system from its origins up to 1914.

LR11051 CONTEMPORARY POLITICAL THEORIES

At the end of this course, the student will be able to identify and analyze: 1) the general guidelines in the study of modern political thinking; 2) the practical relevance of the main ideologies of Western philosophical thinking; 3) the relationship between political ideology and the practice of politics, and 4) the importance of ideologies in humankind's political evolution through time and space.

LR11061 INVESTIGATION METHODS AND TECHNIQUES

At the end of this course, the student will be able to learn the most important theories of research methods and techniques. The student will be able to carry out independent investigation assignments.

MAT2031 DESCRIPTIVE STATISTICS (*)

At the end of this course, the student will understand the basic concepts of mathematical notation used in descriptive data analysis, thus understanding the relationship between statistics and the scientific method to understand and apply descriptive statistical methods in the analysis of social subjects.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LDE1041 CONSTITUTIONAL LAW

At the end of this course, the student will be able to explain, in a critical and principled way, the supremacy and structure of Political Constitution of the United Mexican States (Constitucion Politica de los Estados Unidos Mexicanos). The student will participate actively in simulations of each and every stage of the legislative process included in the Political Constitution of the United Mexican States.

LEC1011 INTRODUCTION TO ECONOMICS (*)

At the end of this course, the student will be able to understand the essential traits of relevant economic problems and to use the most basic techniques of economic analysis to propose solutions.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LRI2011 CONTEMPORARY WORLD HISTORY

At the end of this course, the student will be able to: 1) analyze the development of the international system from 1914 to the present; and 2) evaluate different interpretations regarding the development of the international system from 1914 to the present.

LRI2021 COMPARATIVE POLITICS

At the end of this course, the student will be able to understand the theoretical foundations of comparative politics and the ways that parliamentary and republican governments have sought to imitate it. He/She will analyze and compare selected examples of types of government of every continent.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LDE2061 ADMINISTRATIVE LAW

At the end of this course, the student will be able to solve practical cases through interposing a defense to challenge public administration actions that damage the legal sphere of a person, supported by current legislation and interpretation criteria.

LPT2011 POLITICAL INSTITUTIONS AND DEMOCRACY

At the end of this course, the student will be able to: 1) understand the concept of political institution, its place in current political theory and its relevance to understand contemporary politics; and 2) analyze democratic system's own institutions.

LRI2041 PUBLIC POLICY (*)

At the end of this course, the student will be able to: 1) understand the concept of public policy and its main phases; 2) critically value the public policy approach, the design of the implementation for a solution, and the characteristics of political evaluation.

LRI2051 GEOPOLITICS AND NATURAL RESOURCES

At the end of this course, the student will be able to perform geopolitical analyses of the different regions and countries of the world. He/She will be able to identify the main geopolitical theories and use their ideas in his/her analysis. Also, the student be able to identify the main raw materials of the

world today and their projection for the future.

LRI2071 INTERNATIONAL RELATIONS THEORY

At the end of this course, the student will be able to: 1) evaluate different theories about the actions and interactions of diverse international actors; and 2) apply general proposals that describe and explain different aspects of international relations.

LRI2081 AMERICAN SOCIETY AND POLITICS

At the end of this course, the student will be able to understand the society, government and politics of the United States.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LPT3011 POLITICAL ANALYSIS METHODS

At the end of this course the student will be able to understand the reviewed topics during the learning process and be ready to apply his/her knowledge.

LPT3021 DEVELOPMENT THEORIES AND PRACTICES

At the end of this course, the student will be able to analyze development processes and practices and their sustainability. The student will be able to reflect on and criticize the different theories that development studies have contributed to development situations.

LPT3031 POLITICAL BEHAVIOR

At the end of this course, the student will be able to identify and analyze: 1) the general study guidelines of political behavior; 2) the practical relevance of the main research paths regarding political behavior; 3) the relationship between individual political behavior and politics; and 4) the importance of political behavior in the development of modern democratic and non-democratic systems.

LPT3041 SECURITY THEORIES

At the end of this course, the student will be able to identify and analyze: 1) the general study guidelines of security theories; 2) the theoretical relevance of national security in different international contexts; 3) the convergence and divergence between American and Mexican security theories; and 4) the importance of national security as a theoretical concept in political science.

LRI3011 MEXICAN FOREIGN POLICY I

At the end of this course, the student will be able to identify and analyze: 1) the general guidelines that Mexican foreign policy has towards North America; 2) the practical relevance of Mexico's foreign policy in agreements between nations; 3) the relationship between Mexican foreign policy and its Canadian and American counterparts; and 4) the importance of political and economic globalization in the foreign policies of Canada, the United States and Mexico.

SIXTH SEMESTER

LIP3041 COMMUNICATION AND GLOBALIZATION (*)

At the end of this course, the student will be able to explain in a paper the theoretical frameworks to analyze the development of modern globalization and its impact on communication and media within a political, economic and social context. The student will apply the adequate concepts and terms through case analyses focused on the processes of communication and globalization, their interrelation and impact in local, regional and global environments.

LPT3051 FEDERALISM AND LOCAL GOVERNMENTS

At the end of this course, the student will be able to identify and analyze: 1) the general study guidelines of the relationship between federal authorities and local governments; 2) the practical relevance of the main research paths on federalism; 3) the political relationship between laws and representative institutions in the federation and local governments; and 4) the importance of the constitutional aspects in the relationship between federation and local governments.

LPT3061 POLITICAL PARTIES AND SYSTEMS OF PARTIES

At the end of this course, the student will be able to: 1) understand the concepts of parties and systems of parties; and 2) analyze different types of parties and systems of parties, their characteristics and the consequences on a political system as a whole.

LRI3041 GLOBAL ECONOMIC POLITICS

At the end of this course, the student will be able to analyze processes and dynamics related to global economic politics, as well as working and collaborating in a team.

LRI3051 SECURITY IN A GLOBAL CONTEXT

At the end of this course, the student will be able to: 1) analyze subjects related to national, international and human security; and 2) evaluate different ways to foment human security.

TPT4011 ELECTIVE COURSE I

At the end of this course, the student will be able to utilize the knowledge acquired to delve into the study and analysis of international politics.

SEVENTH SEMESTER

LDE3021 ELECTORAL LAW

At the end of this course, the student will be able to participate

actively in the solution of practical cases to contest elections through processing means, information provided by the professor, and support of the pertinent legislation.

LPT4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to practice the acquired knowledge to evaluate and take part in the solution of problems and situations related to his/her major. Through this the student will be able to establish a link between theory and practice.

LPT4021 POLITICAL MARKETING

At the end of this course, the student will be able to understand and objectively analyze the techniques that are used in political marketing

LRI3071 AMERICAN FOREIGN POLICY

At the end of this course, the student will be able to: 1) analyze the development of American foreign policy from 1776 to present; and 2) evaluate the different interpretations of American foreign policy from 1776 to the present.

LRI4031 HUMAN RIGHTS POLITICS

At the end of this course, the student will be able to reflect and criticize the different theoretical positions that the study of human rights has contributed to analyze current problems. The student will also be capable to have a bearing in the formulation and execution of national and international policies on human rights.

TPT4021 ELECTIVE COURSE II

At the end of this course, the student will be able to utilize the knowledge acquired to delve into the study and analysis of international politics.

EIGHTH SEMESTER

LPT4031 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to practice the acquired knowledge to evaluate and take part in the solution or problems and situations related to his/her major. Through this the student will be able to establish a link between theory and practice.

LPT4041 POLITICS AND NEW TECHNOLOGY

At the end of this course, the student will be able to explain the most complex sociological and philosophical notions of technology and its role in stimulating (or not) public debate and political activities.

LPT4051 SOCIAL MOVEMENTS AND CIVIL SOCIETY IN GLOBALIZATION

At the end of this course, the student will be able to understand the causes and objectives of social movements in the globalized world.

LPT4061 PUBLIC POLICY PRACTICES

At the end of this course, the student will be able to identify and analyze: 1) the general study guidelines of practicing pub-

lic policy; 2) the practical relevance of the main research paths of the application of public policy; 3) the relationship between public interest and the application of public policy; and 4) the importance of efficient public policy in modern Mexico.

LRI4091 CONTEMPORARY LATIN AMERICA (*)

At the end of this course, the student will understand the recent history and politics of Latin American countries, as well as their contemporary predicaments.

TPT4031 ELECTIVE COURSE III

At the end of this course, the student will be able to utilize the knowledge acquired to delve into the study and analysis of international politics.



ACADEMIC PROGRAMS

SCHOOL OF SCIENCES

ACTUARIAL SCIENCES

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LAT1011 INTRODUCTION TO ACTUARIAL SCIENCE

At the end of this course, the student will be able to describe what an actuary can do in his/her professional life, some areas where he/she can work, and to value the use of computers as a tool.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

LME1011 ANALYTIC GEOMETRY

At the end of this course, the student will be able to: use vectors to calculate longitudes and angles and obtain line, plane, circumference and sphere equations, identify cones based on their equations and the application of axis translation and rotation, and to make changes between Cartesian and polar coordinates.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LAT1021 ACTUARIAL APPLICATIONS DEVELOPMENT I

At the end of this course, the student will be able to design and implement computer applications using Excel and Visual Basic Applications (VBA) programming language.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LME1021 MATRIX THEORY

At the end of this course, the student will be able to apply the concepts and properties of elements defined in linear algebra to diverse problems of geometry, linear programming and differential equations.

LME1031 MATHEMATICAL ANALYSIS I

At the end of this course, the student will be able to understand and explain the theory of continuous functions, differential calculus, the relationship between integral and derivative, the logarithmic and exponential functions, the approximation of functions by polynomials, sequences and numerical and functional series, as well as improper integrals.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

THIRD SEMESTER

LAT2011 INSURANCE THEORY

At the end of this course, the student will be able to identify the main features of life and damages insurance, analyzing and drafting contractual documents in accordance to the General Law of Institutions and Mutualistic Insurance Institutions (Ley General de Instituciones y Sociedades Mutualistas de Seguros), in life and damages operations.

LAT2021 ACTUARIAL APPLICATIONS DEVELOPMENT II

At the end of this course, the student will be able to handle the necessary tools for a good data basis design, in order to expedite the search and management of information using Microsoft Access.

LAT2031 THEORY OF INTEREST I

At the end of this course, the student will be able to know basic concepts of time value of money in order to use them for the solution of theoretical and practical problems, understanding the reasoning behind mathematical expressions used for the solution of such problems.

LAT2041 STOCHASTIC MODELS I

At the end of this course, the student will be able to choose and apply mathematical models to contingencies in order to calculate the probability and expected values of a variable.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LME2011 MATHEMATICAL ANALYSIS II

At the end of this course, the student will be able to understand and explain the theory of differential calculus of scalar and vectorial fields, line integrals, and multiple and surface integrals.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAT2051 ACTUARIAL MATHEMATICS FOR LIFE INSURANCE I

At the end of this course, the student will be able to use the relationship between utility theory and life insurance for individuals. The student will also be able to analyze, know and apply mathematical tools needed to compute risk premiums and contingent yields in individual life operations.

LAT2061 DEMOGRAPHY

At the end of this course, the student will be able to identify and apply population methods, build population pyramids, superimposed pyramids and to know how to interpret them. The student will also determine and interpret demographic indicators, create mortality tables, determine confidence intervals for life expectancy, determine fecundity rates and indicators, and carry out demographic analysis using concepts taught in class for a determined population.

LAT2071 THEORY OF INTEREST II

At the end of this course, the student will be able to use different annuity types to analyze different mechanisms to compute a portfolio's yield, in order to quote insurance rates and to draw up contingency plans.

LAT2081 STOCHASTIC MODELING II

At the end of this course, the student will be able to select and apply mathematical models to contingent events, estimating probabilities and expected values of a random vector.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LAT3011 ACTUARIAL MATHEMATICS FOR LIFE INSURANCE II

At the end of this course, the student will be able to discern the relationship between utility theory and life insurance in the collective and group branches. The student will also be able to analyze, know and apply mathematical tools needed to compute risk premiums and contingent yields in individual life operations.

LAT3021 STOCHASTIC PROCESSES

At the end of this course, the student will be able to understand the most important theorems of stochastic convergence and to use them in statistical inference. The student will also use Markov and Poisson models in real problems, especially in actuarial fields.

LAT3031 ACTUARIAL CALIBRATION AND MODELING

At the end of this course, the student will be able to understand modeling principles and their actuarial applications.

LAT3041 INFERENCE METHODS I

At the end of this course, the student will be able to use probability theory to find sample distributions, and to understand and apply methodologies for point and interval estimation of actual problems.

LEC1011 INTRODUCTION TO ECONOMICS (*)

At the end of this course, the student will be able to understand the essential traits of relevant economic problems and to use the most basic techniques of economic analysis to propose solutions.

LEF1011 FINANCIAL ACCOUNTING (*)

At the end of this course, the student will be able to identify and analyze different types of organizations and diverse financial statements relevant and useful for adequate decision making. The student will also learn to identify and define an exact outlook of accounting in business and its importance to control its results.

SIXTH SEMESTER

LAT3051 PORTFOLIO MANAGEMENT

At the end of this course, the student will be able to correctly evaluate and elaborate investment portfolios, analyzing the risk-yield relation of a financial instrument.

LAT3061 ACTUARIAL MATHEMATICS FOR DAMAGE INSURANCE

At the end of this course, the student will be able to use probability concepts and loss estimates in branches of damage insurance. The student will also know, analyze and use mathematical tools to estimate risk premiums, reserves to meet outstanding obligations and ongoing risks.

LAT3071 RISK THEORY

At the end of this course, the student will be able to develop models for technical reserves in the solvency of insurance companies, discerning different factors to prevent bankruptcy in insurance companies.

LAT3081 INFERENCE METHODS II

At the end of this course, the student will be able to understand and apply methodologies to test hypotheses and non parametric statistics in actual problems.

LAT3091 ADVANCED OPTIMIZATION

At the end of this course, the student will be able to use modern optimization techniques to solve complex combining problems.

LME2021 MATHEMATICAL ANALYSIS III

At the end of this course, the student will be able to: determine if a collection of sets is sigma-algebra, to propose new sigma-algebras, to verify the measurability of a function with respect to a given sigma-algebra, to determine if a function is a measurement, to graph simple functions, to integrate simple functions, to verify the integrability of measurable functions, and to use the L_p space applications in probability.

SEVENTH SEMESTER

LAT4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to practice the acquired knowledge throughout his/her studies to diagnose, evaluate, and participate in the solution of problems particular to his/her profession, establishing a link between theory and practice, between school and society, and between his/her aspirations and the needs of his/her surroundings.

LAT4021 SOCIAL SECURITY AND PENSIONS

At the end of this course, the student will be able to use basic concepts related to old age as a basis to propose pension plans, and to identify current actuarial methods for the study of costs associated to an annuity plan.

LAT4031 ACTUARIAL RISK MANAGEMENT

At the end of this course, the student will be able to under-

stand the relationship between general administration and risk management, as well as the importance of the latter in actuarial practice, in order to explain the characteristics and importance that risk management has in an insurance institution.

LAT4041 REGRESSION ANALYSIS

At the end of this course, the student will be able to understand and use methodologies for hypotheses testing and non-parametric statistics tests to real problems.

LAT4051 FINANCIAL MARKETS

At the end of this course, the student will be able to identify different types of markets and financial institutions, as well as the securities quoted in them.

TAT4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply and relate the knowledge of his/her studies to delve into a given topic of Actuarial Science.

EIGHTH SEMESTER

LAT4061 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to practice the acquired knowledge throughout his/her studies to diagnose, evaluate, and participate in the solution of problems particular to his/her profession, establishing a link between theory and practice, and between school and society.

LAT4071 TIME SERIES

At the end of this course, the student will be able to master conceptual and operational forecast and regression models.

LAT4081 ACTUARIAL SIMULATION

At the end of this course, the student will be able to identify some commonly used stochastic models used in actuarial science.

TAT4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply and relate the knowledge of his/her studies to delve into a given topic of Actuarial Science.

TAT4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply and relate the knowledge of his/her studies to delve into a given topic of Actuarial Science.

BIOLOGY

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LBI1011 INTRODUCTION TO BIOLOGY

At the end of this course, the student will be able to identify the general principles that determine, define, and characterize living beings. The student will integrate his/her knowledge about diversity and properties emerging from life in a physiochemical evolutionary context.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LBI1021 INTRODUCTION TO BIOLOGY LAB

At the end of this course, the student will be able to apply experimental techniques to understand and analyze physiochemical phenomena in living beings, as well as coherently record and report lab experiences related to physicochemical characteristics and properties of living organisms.

LBI1031 EUKARYOTE MICROBIOLOGY

At the end of this course, the student will be able to typify microscopic eukaryote groups, their phylogenetic relations, cellular characteristics and life cycles, as well as diagnose their ecological, economic, and medical importance.

LBI1041 EUKARYOTE MICROBIOLOGY LAB

At the end of this course, the student will be able to identify the main microscopic eukaryote groups, using collection and culture methods to identify them.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately

LQU1061 ORGANIC CHEMISTRY LAB I

At the end of this course, the student will be able to apply the knowledge acquired to assemble equipment used in organic chemistry and performing synthesis, separation, purification and identification operations. He/She will integrate his/her work the rules of personal safety, observing best practices in the laboratory as well as when handling dangerous residues

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LBI2011 ZOOLOGY I

At the end of this course, the student will be able to identify the main animal groups and their characteristics, as well as the general relationships among them. Also, the student will identify the characteristics that differentiate animals and existing animal phyllii.

LBI2021 ZOOLOGY I LAB

At the end of this course, the student will be able to identify and analyze morphological structures, reproductive forms, and behavior of studied organisms, and to describe their function. The student will use this knowledge to compare their general characteristics and to use techniques for specimen collection in the field.

LBI2031 MYCOLOGY

At the end of this course, the student will be able to classify and diagnose the cellular trophic and reproductive characteristics of groups studied in mycology. The student will debate on their ecological function, and cultural and economic importance.

LBI2041 MYCOLOGY LAB

At the end of this course, the student will be able to identify Oomycete, Myxomycete, Zygomycete, Glomeromycete, Basidiomycete, and Ascomycete groups, based on their cellular characteristics and reproductive structure. The student will be able to apply collection, culture, and identification techniques for these groups.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU2011 PHYSICOCHEMISTRY I

At the end of this course, the student will be able to interpret the different energy exchange processes, through the adequate use of thermodynamic principles, calculating heat reaction and relating them correctly to standard states, applying the criteria of spontaneity and equilibrium of diverse chemical and biological systems, correctly using the concept of chemical potential to interpret physicochemical phenomena

LQU2071 BIOCHEMISTRY I

At the end of this course, the student will be able to correctly describe the structure, physicochemical characteristics, function and interaction of biomolecules, as well as the methodology used for their study.

FOURTH SEMESTER**LBI2051 CELLULAR BIOLOGY**

At the end of this course, the student will be able to understand the structure, organization, partitioning, and cellular complexity needed to support vital phenomena in unicellular organism, as well as their integration into multi-cellular organisms.

LBI2061 BOTANY I

At the end of this course, the student will be able to analyze the role of plants in the history of life's evolution on earth, and illustrate the phylogenetic relationships of the Plantae Kingdom with other organisms, as well as identify and contrast the diversity of Chlorophyta, Bryophyta, and Pteridophyta phylums.

LBI2071 BOTANY I LAB

At the end of this course, the student will be able to identify in the field and in herbal specimens members of the Bryophyta, Sphenophyta, Lycophta, and Pteridophyta groups. The student will be able to apply dichotomous keys for their identification, and to differentiate macro and microscopically various vegetal organisms.

LBI2081 MICROBIOLOGY

At the end of this course, the student will be able to correctly explain the structure, metabolism, and growth conditions of microorganisms, as well as to describe the techniques to culture and quantify them, and to select adequate methods for their control.

LBI2091 MICROBIOLOGY LAB

At the end of this course, the student will be able to work in sterile conditions and to develop needed lab abilities to handle, grow and preserve microbiological specimens.

LQU3101 BIOCHEMISTRY II

At the end of this course, the student will be able to correctly describe the metabolic routes, their regulation, their interrelationships and the organs or tissue where these happen. The student will be able to analyze the metabolism in normal physiological situations.

MAT2041 STATISTICAL INFERENCE

At the end of this course, the student will be able to use statistical inference tools to apply parametric and non-parametric tests in the systematical analysis of data used in the social sciences.

FIFTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LBI3011 BIOTIC RESOURCES OF MEXICO

At the end of this course, the student will be able to identify the biotic resources of Mexico, the value of each regarding conservation and, in some cases, their economic value. The student will know the main threats for their preservation and the real and potential means to protect them.

LBI3021 MOLECULAR BIOLOGY

At the end of this course, the student will be able to describe correctly, in writing, the relationship between structure and function of nucleic acids, molecular mechanisms involved in the flow of complex control information in prokaryotes and eukaryotes. The student will solve problems of his/her particular field by using molecular biology tools.

LBI3031 EXPERIMENTAL BIOLOGY

At the end of this course, the student will be able to carry out lab tests applied to research in chemistry and biology, and acquire the skills to apply techniques to determine, qualitatively and quantitatively, bio-molecules and experimental parameters in live and in vitro models.

LBI3041 ZOOLOGY II

At the end of this course, the student will be able to identify the main groups of vertebrates and their characteristics, as well as the general relationships among them. The student will also learn to differentiate vertebrates from related groups.

LBI3051 ZOOLOGY LAB II

At the end of this course, the student will be able to analyze, contrast, and compare the morphologic characteristics of chordates, as well as explain and describe, from an adaptive standpoint, the relationship between structure and function in different groups of vertebrates.

SIXTH SEMESTER

LBC3091 MOLECULAR METHODS OF ANALYSIS

At the end of this course, the student will be able to describe correctly in writing the routine techniques employed in molecular diagnoses and their combinations with different applications in the clinical area.

LBI3061 BOTANY II

At the end of this course, the student will be able to describe the phases of life cycles in plants belonging to Gyngophyta, Coniferophyta, Magnoliophyta groups. The student will learn to identify in the field and in herbarium specimens of said groups.

LBI3071 BOTANY II LAB

At the end of this course, the student will be able to identify the Gnetophyta, Gyngophyta, Coniferophyta, Cycadophyta, and Magnoliophyta phyla, based on their macro and microscopic characteristics and their life cycles. The student will learn to apply techniques for the collection, preservation and identification of plants.

LBI3081 ECOLOGY AND ENVIRONMENTAL CHANGE

At the end of this course, the student will be able to interpret and analyze the structure and function of ecosystems, considering the interrelations among their different components, to evaluate human influence and its consequences on ecosystems, particularly in regards to climate change, as well as global policies to remedy, mitigate and preserve them.

LBI3091 ECOLOGY METHODS

At the end of this course, the student will be able to use analysis and collection methods of biotic and physical data in the field and to interpret their ecological meaning. The student will use the acquired knowledge for the detection and solution of current environmental problems

LBI3121 GENETICS

At the end of this course, the student will be able to explain the principles that regulate heredity, as well as the causes of genetic variation in living beings.

LBI3141 VEGETABLE PHYSIOLOGY

At the end of this course, the student will be able to identify the component systems of a vegetable organism, as well as understanding their function and the anatomic, evolutionary, and environmental factors that determine them. The student will identify the different ways they are organized and how tissue systems work in different groups of plants.

SEVENTH SEMESTER

LBC4041 MOLECULAR METHODS AND VIROLOGY LAB

At the end of this course, the student will be able to correctly use current techniques for viral and molecular diagnosis.

LBI4021 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply his/her knowledge to take part in inter-disciplinary teams to perform specific tasks in different areas of Biology and to adapt to a new working environment.

LBI4031 ECOLOGY AND COMMUNITY

At the end of this course, the student will be able to evaluate the structure and function of biological communities, to know how to assess their productivity, their trophic structure and the biogeochemical cycles in ecosystems.

LBI4041 ANIMAL PHYSIOLOGY

At the end of this course, the student will be able to identify the systems that constitute an animal organism and to understand their function, as well as the anatomical, environmental and evolutionary factors that determine them. The student will learn the various ways they are organized and their function in organ systems of different animal groups.

LBI4051 PHYSIOLOGY LAB

At the end of this course, the student will be able to analyze mechanisms used by higher plants to maintain water balance, to capture light energy, and their transformation into nutritional substances, as well as the response of plants to stress situations. The student will learn to differentiate the main animal tissues and organs to explain various physiological processes associated to these structures.

LBI4061 EVOLUTIONARY BIOLOGY

At the end of this course, the student will be able to use evolutionary reasoning in different biology areas, to explain concepts of adaptation, biological diversity and similarities between organism, as well as change and adaptation mechanisms.

LBI4071 EVOLUTIONARY BIOLOGY LAB

At the end of this course, the student will be able to analyze the mechanisms for evolutionary change, as well as current models of the evolutionary process.

TBI4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of Biology from an up-to-date point of view.

EIGHTH SEMESTER**LBI4081 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to apply his/her knowledge to participate in inter-disciplinary teams to perform specific tasks in different areas of Biology and to adapt to a new working environment.

LBI4091 BIOLOGY OF GROWTH AND DEVELOPMENT

At the end of this course, the student will be able to identify and understand the processes through which organisms grow and develop and those that intervene in the genetic control of cellular growth, and cellular differentiation and morphogenesis.

LBI4101 BIOLOGY OF GROWTH AND DEVELOPMENT LAB

At the end of this course, the student will be able to describe and analyze the morphology, sexual reproduction and embryo development of plants and animals. The student will identify different structures and processes taking part in the growth and development of plants and animals.

LBI4111 METHODS OF CONSERVATION BIOLOGY

At the end of this course, the student will be able to acknowledge the role of conservation biology in conserving organisms, in order to influence all dimensions of human life.

TBI4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of Biology from an up-to-date point of view.

TBI4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of Biology from an up-to-date point of view.

CLINICAL BIOCHEMISTRY

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LCF1011 INTRODUCTION TO HEALTH SCIENCES

At the end of this course, the student will be able to have an integral and general vision of various concepts and methods to study human beings in health and in sickness. The student will learn the scientific bases for clinical diagnosis and therapy, as well as the relationship between health professionals and patients, medical care frameworks, disease prevention and health promotion.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately

LQU1061 ORGANIC CHEMISTRY LAB I

At the end of this course, the student will be able to apply the knowledge acquired to assemble equipment used in organic chemistry and performing synthesis, separation, purification and identification operations. He/She will integrate his/her work the rules of personal safety, observing best practices in the laboratory as well as when handling dangerous residues

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

EDSO011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able

to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU2011 PHYSICOHEMISTRY I

At the end of this course, the student will be able to interpret the different energy exchange processes, through the adequate use of thermodynamic principles, calculating heat reaction and relating them correctly to standard states, applying the criteria of spontaneity and equilibrium of diverse chemical and biological systems, correctly using the concept of chemical potential to interpret physicochemical phenomena

LQU2031 ORGANIC CHEMISTRY II

At the end of this course, the student will be able to describe the different reaction mechanisms of organic compounds, and explain the relationship between properties and transformation of different functional organic groups.

LQU2071 BIOCHEMISTRY I

At the end of this course, the student will be able to correctly describe the structure, physicochemical characteristics, function and interaction of biomolecules, as well as the methodology used for their study.

MAT2041 STATISTICAL INFERENCE

At the end of this course, the student will be able to use statistical inference tools to apply parametric and non-parametric tests in the systematical analysis of data used in the social sciences.

FOURTH SEMESTER

LBC2011 HISTOLOGY

At the end of this course, the student will be able to describe and identify the microscopic structure of cells, tissues and organs that constitute different systems of the human body.

LBI2051 CELLULAR BIOLOGY

At the end of this course, the student will be able to understand the structure, organization, partitioning, and cellular complexity needed to support vital phenomena in unicellular organism, as well as their integration into multi-cellular organisms.

LBI2081 MICROBIOLOGY

At the end of this course, the student will be able to correctly explain the structure, metabolism, and growth conditions of microorganisms, as well as to describe the techniques to culture and quantify them, and to select adequate methods for their control.

LBI2091 MICROBIOLOGY LAB

At the end of this course, the student will be able to work in sterile conditions and to develop needed lab abilities to handle, grow and preserve microbiological specimens.

LQU2051 ANALYTICAL CHEMISTRY

At the end of this course, the student will be able to identify the principles of analytical chemistry, and apply them to the solution of chemistry, biology and health problems.

LQU2061 ANALYTICAL CHEMISTRY LAB

At the end of this course, the student will be able to manipulate the material and lab equipment utilized in analytical chemistry, learning the techniques of chemical analysis normally employed in quality control labs.

LQU3101 BIOCHEMISTRY II

At the end of this course, the student will be able to correctly describe the metabolic routes, their regulation, their interrelationships and the organs or tissue where these happen. The student will be able to analyze the metabolism in normal physiological situations.

FIFTH SEMESTER

LBC3011 MEDICAL PARASITOLOGY

At the end of this course, the student will be able to participate, together with other health professionals, in the diagnosis and prevention of parasitic diseases.

LBC3021 ANATOMY AND PHYSIOLOGY

At the end of this course, the student will be able to interpret the physiological processes of the main systems and apparatus of the human body.

LBC3031 MEDICAL BACTERIOLOGY

At the end of this course, the student will be able to differentiate the most important bacterial groups in the human health field, as well as the common and current methods for their isolation and identification, and their relationship to different pathologies.

LBC3041 CLINICAL MYCOLOGY

At the end of this course, the student will be able to differentiate pathogenic fungi, to study their role in infectious diseases through their life cycles, as well as the morphology, reproduction modes and mechanisms used to cause disease in humans in order to prevent mycosis.

LBC3051 ANATOMY AND HISTOLOGY LAB

At the end of this course, the student will be able to locate and identify the structure of cells, tissues and organs that constitute the different systems of the human body.

LBI3021 MOLECULAR BIOLOGY

At the end of this course, the student will be able to describe correctly, in writing, the relationship between structure and function of nucleic acids, molecular mechanisms involved in

the flow of complex control information in prokaryotes and eukaryotes. The student will solve problems of his/her particular field by using molecular biology tools.

LBI3031 EXPERIMENTAL BIOLOGY

At the end of this course, the student will be able to carry out lab tests applied to research in chemistry and biology, and acquire the skills to apply techniques to determine, qualitatively and quantitatively, bio-molecules and experimental parameters in live and in vitro models.

SIXTH SEMESTER

LBC3061 IMMUNOLOGY

At the end of this course, the student will be able to describe and analyze the structure and function of molecules and cells that participate in an immunologic response in humans and to analyze the conceptual and operational management of immune, stage, cell and tissue responses.

LBC3071 PATHOPHYSIOLOGY

At the end of this course, the student will be able to interpret basic mechanisms of pathological processes shared by different diseases, as well as the specific mechanisms that are part of the production and clinical symptoms of such diseases.

LBC3081 CLINICAL DIAGNOSTIC LAB

At the end of this course, the student will be able to use and integrate basic terminology pertaining to hematology and immunology and their application in a clinical lab, and to perform and interpret immune-hematological lab tests for diagnostic support.

LBC3091 MOLECULAR METHODS OF ANALYSIS

At the end of this course, the student will be able to describe correctly in writing the routine techniques employed in molecular diagnoses and their combinations with different applications in the clinical area.

LBC3101 HEMATOLOGY

At the end of this course, the student will be able to apply the acquired knowledge about basic diagnostic hematologic morphology and physiology to analyze and interpret lab results during pathologic hematologic changes.

LBI3121 GENETICS

At the end of this course, the student will be able to explain the principles that regulate heredity, as well as the causes of genetic variation in living beings.

LCF3071 DIAGNOSTIC MEDICAL MICROBIOLOGY LAB

At the end of this course, the student will be able to identify microorganisms in a systematic way, in food and biological samples.

SEVENTH SEMESTER

LBC4011 MEDICAL VIROLOGY

At the end of this course, the student will be able to understand the clinical aspects of virus properties, their pathogen-

esis, as well as the immune response that may be present to each virus. The student will also relate the diagnostic and clinical aspects to existing treatments in each case.

LBC4021 CLINICAL DIAGNOSTIC LAB II

At the end of this course, the student will be able to use and integrate basic terminology used in clinical biochemistry and its application in a clinical lab, and to conduct and interpret lab tests for diagnostic support.

LBC4041 MOLECULAR METHODS AND VIROLOGY LAB

At the end of this course, the student will be able to correctly use current techniques for viral and molecular diagnosis.

LBC4051 CLINICAL BIOCHEMISTRY

At the end of this course, the student will be able to perform and interpret lab tests to determine alterations in carbohydrate, lipid, amino-acid, and protein metabolism. The student will discuss their role as diagnostic support in alterations of acid-base balance, hepatic, pancreatic, and cardiac pathologies of the organism.

LBC4061 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to acquire dexterity and use the knowledge acquired while participating in multi-disciplinary teams to carry out specific work in different areas of Biochemistry, and to solve situations in adapting to a new job environment.

LQU4031 INSTRUMENTAL ANALYSIS

At the end of this course, the student will be able to efficiently use different instrumental analysis techniques, establishing an adequate methodology for the development of a full chemical analysis, applying the necessary criteria to correctly interpret the experiment's results through the use of physicochemical methods of analysis.

LQU4041 INSTRUMENTAL ANALYSIS LAB

At the end of this course, the student will be able to identify and quantify the analyte of a sample through physicochemical treatment and analysis through instruments of said sample.

TBC4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of biochemistry from an up-to-date point of view.

EIGHTH SEMESTER

LBC4071 TOXICOLOGY

At the end of this course, the student will be able to classify noxious substances present in the environment that act on living organisms, with regard to their origin, toxicity level, toxic-kinetics and toxic-dynamics. The student will know national and international norms that apply to toxicology, and will know the methodology needed to identify and analyze the clinical consequences of the actions of toxic substances of various origins that human beings are exposed to in order to prevent and treat intoxications.

LBC4081 QUALITY CONTROL

At the end of this course, the student will be able to identify the requirements that clinical analysis labs must fulfill to show they operate under quality systems and are technically competent, so they are able to generate technically valid results.

LBC4091 TOXICOLOGY AND FORENSICS LAB

At the end of this course, the student will be able to identify, analyze and inform on the clinical consequences of intoxications due to organic, inorganic, and biological compounds, as well as select the most adequate technology for the analysis of forensic samples and their interpretation.

LBC4101 FORENSIC MEDICINE

At the end of this course, the student will be able to select the most adequate methodology to obtain and analyze forensic samples.

LBC4111 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to acquire dexterity and use the acquired knowledge when participating in multi-disciplinary teams to carry out specific work in different areas of Biochemistry, and to solve situations in adapting to a new job environment.

TBC4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of biochemistry from an up-to-date point of view.

TBC4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of biochemistry from an up-to-date point of view.

*Restrictions apply.

DENTAL SURGEON

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMR1012 HISTOLOGY

Describe the microscopic structures of cells, tissues, and organs that constitute the various apparatus and systems of the human body, observing cells in the lab to relate them to pathophysiology of disease.

LMR1022 CLINICAL BIOCHEMISTRY

Identify the constitution of biomolecules, by observing their development in the lab, in order to establish their relation with the human body. Review the processes involved in molecular mechanisms -- and the chemical transformations responsible for biological processes that are part of an organism functions -- simulating those processes to generate better diagnostics in professional practice.

LMR1032 ANATOMOPHYSIOLOGY

Evaluate the fundamentals of morphology and the normal functions of the organism, analyzing functional alterations present in disease to obtain an expansive vision of the physical composition of a human being.

LMR1042 EMBRYOLOGY AND GENETICS

Outline the origin, growth, and development of a human being, and to assume a preventative position to promote adequate health habits, distinguishing the morphologic changes that may be present at different stages of the formation and development of a human being.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities

to validate, share, retrieve and use information in an effective and ethical manner.

LCD1011 DENTAL ANATOMY

Explain the concepts of dental anatomy, understanding the function of the mouth and the parts and characteristics of teeth that allow a dental surgeon to create a wax model of teeth to provide treatment according to the patient's needs.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMR1052 PHYSIOLOGY

Distinguish the cellular and molecular structure, organization, compartmentalization, and complexity needed to support vital phenomena in unicellular organisms and in the integration of organisms, correlating knowledge of cell and molecular biology with adequate diagnoses and treatments that understand the processes of cellular regulation and gene expression.

LMR1062 CELLULAR AND MOLECULAR BIOLOGY

Distinguish the cellular and molecular structure, organization, compartmentalization, and complexity needed to support vital phenomena in unicellular organisms and in the integration of organisms, correlating knowledge of cell and molecular biology with adequate diagnoses and treatments that understand the processes of cellular regulation and gene expression.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

THIRD SEMESTER

LCD2011 PREVENTIVE AND COMMUNITY DENTISTRY

Analyze the importance of preventive and community odontology as well as its daily practice, developing skills that allow the student to be an educator in oral health and to carry out prevention campaigns to treat vulnerable sectors of the population.

LCD2021 DENTAL MATERIAL LABORATORY

Explain the physicochemical properties and structures of different odontology materials, analyzing their components and praxis to perfect different techniques to handle and administer materials during odontology practice.

LCD2041 DENTAL ANESTHESIOLOGY

Understand anesthetics and their recommended odontology procedures to use them on patients. To analyze the characteristics of patients, steps to follow, dosage, types of anesthetics, and specific techniques to administer optimal sedations on patients.

LCD2061 ORAL PATHOLOGY

Recognize disorders and illnesses of the oral cavity, maxillary, mandible, and teeth by studying the causes and development of signs and symptoms as well as the multidisciplinary approach to participate in the opportune diagnosis and detection of serious illness.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMR2012 MICROBIOLOGY AND PARASITOLOGY

Identify the biological bases of microorganisms that cause infectious diseases common in our environment, considering mainly the structural, biochemical, and genetic properties intervening in the infectious disease process. To use adequate samples to isolate and identify microorganisms, based on different kinds of microscopic, biochemical, and immunological tests.

LMR2022 GENERAL PHARMACOLOGY

Interpret acquired knowledge on general pharmacology, action mechanisms, indications, and contraindications of different drugs used for pain, inflammation, and infection and develop abilities for rational prescription of drugs

LMR2032 INTRODUCTION TO HEALTH SCIENCES

Analyze the propaedeutic methodology based on the syndromes of different human pathologies, applying the technical foundations of the propaedeutic method to advance an etiologic, symptomatic, anatomopathologic, and integral diagnosis. To develop the abilities and skills needed for an integral examination of the nervous system to obtain complete medical records (inspection, palpation, percussion, and auscultation.)

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LCD2031 OCCLUSIÓN

Analyze the types of pathologies of the temporomandibular joint by detailed detection of the different tooth eruption stages, understanding the motor function and acquisition of masticatory skills in order to evaluate and apply the ideal integral treatment.

LCD2051 OPERATIVE DENTISTRY CLINICS I

Apply the basic procedures of operative dentistry, describing the elements, dental structures, and lesions to analyze the process needed to return function and aesthetic to teeth.

LCD2071 DENTAL RADIOLOGY

Use different intraoral and extra oral radiography techniques understanding the methodology and practice of the use of different types of imaging and processing. Interpret and correctly assess the patient and attend to his/her immediate needs.

LMR2042 NUTRITION AND METABOLISM

Understand the basic mathematical notation concepts used in descriptive analysis of data to use descriptive statistical methods in the analysis of social issues.

LMR2062 CLINICAL IMMUNOLOGY

Identify the basic mechanisms used by the human body to respond to infectious agents or external factors, through the analysis of immunological concepts and their relationships at the cellular level.

MAT2001 STATISTICS

Handle the basic concepts of mathematical notation used in the descriptive analysis of data, by identifying the statistical relationship with the scientific method to apply descriptive statistical methods in the analysis of social issues.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LCD3021 PROSTHESIS

Explain the procedures to learning the process of fixed prosthetics in order to develop their skills in an orderly and sequential manner, respecting biological, mechanical, and aesthetic principles.

LCD3031 PERIODONTICS

Identify periodontal disorders and their cure in a structured fashion, in order to reach an accurate diagnosis and a successful therapeutic result. The student will be able to diagnose, choose an ideal treatment, and carry out actions to prevent periodontal diseases.

LCD3041 DENTAL EXTRACTION

Describe the basic dental extraction procedures that allow working successfully in the extraction area, by analyzing the surgical basics and clinical behavior to take the necessary steps and provide the patient with adequate treatment and follow-up.

LCD3051 OPERATIVE DENTISTRY CLINICS II

Perform pertinent teeth reconstructions, by describing the procedures to handle tissue in order to make restorations that respect aesthetics and function.

LCD3061 ENDODONTICS

Identify the physiology, anatomy and pathology of the pulp chamber and periradicular tissue so the student can diagnose, prevent, and provide the ideal treatment to preserve the natural teeth.

LMR3012 BIOETHICS IN HEALTH SCIENCE

Defend professional development based on ethical codes and principles, through justification of laws, individual rights, human rights, and cultural diversity, to assess the limitations and opportunities that favor an integral, multidisciplinary, or sustainable approach.

SIXTH SEMESTER

LCD3071 SELECTIVE TOPICS I

Diagnose morphological changes in form, color, surface, lesions, intra-osseous, and peribuccal areas of the oral cavity, maxillofacial area, head, and neck by analyzing the histopathology, microbiology, and lab studies in order to detect common and uncommon oral pathologies.

LCD3081 PERIODONTICS CLINICS

Use the basic knowledge as well as the latest procedures and techniques in reconstructive treatment in order to establish regenerative and aesthetic treatment plans. Detect the factors that influence the development of periodontal disease, identifying bad habits, bad odontology procedures, and diseases, in order to reestablish complete oral health.

LCD3091 PROSTHODONTICS

Integrate techniques and procedures to make complete dentures; to make optimal use of the different materials and equipment to study and practice total prosthodontics, in order to achieve a simplified and objective display of prosthodontics concepts.

LCD3101 DENTAL EXTRACTION CLINICS

Perform extractions and oral surgical procedures by using extraction techniques and instruments to achieve avulsion or extraction of the tooth or the root.

LCD3111 PROSTHETICS CLINICS

Know procedures and basics of fixed and removable prosthetics in order to develop orderly and sequential skills, respecting the physiological, mechanical, and aesthetic principles of the oral cavity in order to provide functionality and aesthetics.

LCD3121 ENDODONTICS CLINICS

Distinguish the importance of epidemiology by applying epidemiological variables of time, place, and person for the study of a population's health. Evaluate health indicators in communities and towns, identifying health problems to design programs that comply with public health policy.

LMR3022 PUBLIC HEALTH EPIDEMIOLOGY IN HEALTH SCIENCES

Evaluate health indicators in communities and towns, identifying health problems to design programs that comply with public health policy.

SEVENTH SEMESTER

LCD4011 SELECTIVE TOPICS II

Use odontology as a method to identify people, studying dental pieces, materials, and radiographs as well as clinical histories that provide pre mortem information to correlate data, looking for coincidences or differences that allow identification and/or odontology evidence.

LCD4021 PROSTHODONTICS CLINICS

Develop techniques and procedures to make complete dentures, using different materials and equipment to study and practice prosthodontics, to achieve a simplified and objective explanation of prosthodontics concepts.

LCD4031 PEDODONTICS

Demonstrate the techniques and preventive procedures in pedodontics, identifying the latest techniques in the treatment of cavities in order to create treatment plans and procedures for adequate restoration. Detect behaviors of the pediatric patient through the analysis of his/her psychological, cognitive, and emotional development, to tailor the procedures and provide safety and trust in the dental practice.

LCD4041 MAXILLOFACIAL SURGERY

Use maxillofacial surgery techniques and procedures, identifying the basic knowledge as well as the latest techniques in reconstructive, regenerative, and aesthetic treatments to achieve an appropriate and efficient care. Describe the procedures that ensure safety in surgery, to perform the necessary actions and offer adequate treatment and follow-up to the patient.

LCD4051 ORAL REHABILITATION

Use the necessary techniques and procedures to diagnose, treat, and completely rehabilitate patients.

LCD4061 ORTHODONTICS

Diagnose the changes presented in the oral tissues of the maxillary, head and neck. Analyze the differential diagnoses of similar lesions using the knowledge received, which will help to select the correct treatment.

LMR4012 HEALTH PSYCHOLOGY

Select the most appropriate procedures and techniques for different situations, understanding health issues in a multidisciplinary way, and reviewing biological, social, and psychological aspects to attend to all factors that affect a patient's mental pathology. Analyze personality disorders and other diseases, classifying them and knowing their main features, in order to complement medical practice.

EIGHTH SEMESTER

LCD4071 GERIATRIC REHABILITATION CLINICS

Describe physical-organic characteristics of the oral cavity with tooth loss and its relation to the elderly, as well as the factors that intervene in its etiology to provide complete rehabilitation.

LCD4081 SELECTIVE TOPICS III

Use surgically innovative techniques and procedures, evaluating reconstructive, regenerative, and aesthetic treatments in order to achieve an ideal and efficient management of the patient.

LCD4091 MAXILLOFACIAL SURGERY CLINICS

Apply techniques and procedures in maxillofacial surgery. Understand the latest procedures and advanced techniques in reconstructive, regenerative, and aesthetic maxillofacial surgery to approach the patient's treatment and rehabilitation.

LCD4101 ORAL REHABILITATION CLINICS

Apply techniques and procedures necessary to diagnose, treat and rehabilitate a patient.

LCD4111 ORTHODONTICS LABORATORY

Analyze the steps to develop an orthodontic treatment following and orderly procedure, identifying the patient's habits and malocclusions in order to describe the dental appliances used.

LCD4121 PEDODONTICS CLINICS

Apply techniques and procedures in pedodontics, and become aware of basic pediatric patient behavior, in order to manage children and provide a warm environment during dental appointments. Identify the pediatric patient's conduct by analyzing his/her psychological, cognitive, and emotional development, to adapt the procedures and provide safety and trust during the dental session.

LMR4022 RESEARCH METHODOLOGY IN HEALTH SCIENCE

Conduct theoretical and/or experimental work under a professional's guidance, in any area or topic of the field, valuing methodology to design a research protocol.

*Restrictions apply.

MEDICAL SURGEON

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX011 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMR1011 HUMAN ANATOMY I

At the end of this course, the student will be able to use a planimeter in different parts of the human body, interpreting the characteristics of organs and systems in a general manner. The student will also be able to recognize and interpret in a living person: superficial anatomy, topography and conventional and sectional radiology.

LMR1021 MEDICAL BIOCHEMISTRY

At the end of this course, the student will be able to master the basics of biochemistry, applying scientific reasoning to how chemical substances interact, how their metabolism works, and the biochemical changes in normal and abnormal functions of the organism. The student will have a critical attitude to apply biochemistry in medicine and to understand an individual's physiology.

LMR1031 MOLECULAR AND CELLULAR BIOLOGY

At the end of this course, the student will be able to understand the molecular and cellular structure, organization, partitioning and complexity to support vital phenomena in unicellular and multicellular organisms.

LMR1041 HUMAN DISSECTION I

At the end of this course, the student will be able to use a planimeter in different parts of the human body. The student will also be able to recognize and interpret in a corpse, superficial anatomy and topography.

LMR1051 BIOCHEMISTRY LAB

At the end of this course, the student will be able to master the basics of biochemistry, applying scientific reasoning to how chemical substances interact, how their metabolism works, and the biochemical changes in normal and abnormal functions of the organism. The student will have a critical attitude to explain the results of the lab experiments.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LBC2011 HISTOLOGY

At the end of this course, the student will be able to describe and identify the microscopic structure of cells, tissues and organs that constitute different systems of the human body.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMR1061 HUMAN PHYSIOLOGY I

At the end of this course, the student will be able to master the basic knowledge of medical physiology and the basics of a normal organism's functions from a cellular basis. Also, the student will be able to analyze the functional changes that are present during illness and apply scientific reasoning and critical attitude to correlate physiological knowledge with diagnosis and adequate treatment.

LMR1071 MEDICAL MICROBIOLOGY AND PARASITOLOGY

At the end of this course, the student will be able to master the basics of microbiology and parasitology, and have a scientific, logical and systematic mindset when using the appropriate technology to collect and identify microorganisms such as bacteria, viruses and fungi of clinical interest in medicine. The student will describe in a critical way the diagnosis and treatment of each type of infection.

LMR1081 HUMAN ANATOMY II

At the end of this course, the student will be able to identify the different structures, knowing and applying planimetry in different parts of the human body. The student will also interpret superficial anatomy; topographic and conventional and sectional radiology. The student will understand that even though anatomy is studied in a fragmented fashion for didactic reasons, the human being is a biological unit and must be considered as such.

LMR1101 HUMAN DISSECTION II

At the end of this course, the student will be able to use a planimeter on different parts of the human body. The student will also be able to recognize and interpret on a corpse surface and topographical anatomy.

LMR1111 MEDICAL MICROBIOLOGY AND PARASITOLOGY LAB

At the end of this course, the student will be able to identify the most important microbial groups in human health and

their relationship with different diseases, as well as the need for asepsis techniques in the prevention of nosocomial infections. The student will work in a team using critical, creative and reflexive thinking.

LMR1121 MEDICAL HISTOLOGY

At the end of this course, the student will be able to demonstrate his/her knowledge of the macroscopic and microscopic structure of an organism's normal histological functions, as well as the molecular mechanisms that these imply. The student will also acquire the basic skills in the use of an optical microscope and in obtaining samples for histological studies, demonstrating its application in the context of representative diseases.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMR2011 HUMAN PHYSIOLOGY II

At the end of this course, the student will be able to master the basic knowledge of medical physiology and the basics of a normal organism's functions. Also, the student will be able to analyze the functional changes that are present during disease and apply scientific reasoning and critical attitude to correlate physiological knowledge with diagnosis and adequate treatment.

LMR2021 EMBRYOLOGY

At the end of this course, the student will be able to analyze and show a schematic of the origin, growth and development of human beings. The student will also learn the processes that take part in normal ontogeny, and how they change in some medically interesting cases, in light of the findings and techniques of developmental biology.

LMR2031 PATHOLOGICAL ANATOMY

At the end of this course, the student will be able to demonstrate the knowledge acquired of etiopathogenesis, pathophysiology, and the macro and microscopic morphology of pathologic processes common to many diseases. The student will develop the necessary skills to identify tissue changes of these processes and relate them to clinical manifestations.

LMR2041 MEDICAL PHARMACOLOGY I

At the end of this course, the student will be able to apply the general principles of pharmacology in current therapeutics, evaluating the options and uses of drugs as a function of

the body's system, as well as their main therapeutic indications, pharmacological interactions, contraindications and side effects.

LMR2051 HUMAN PHYSIOLOGY LAB

At the end of this course, the student will be able to apply the basic knowledge of medical physiology and the fundamentals of normal organism function, analyzing the functional changes that are present when there is a disease. The student will apply scientific reasoning and critical attitude to explain the results of experiments shown in the lab.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LBC3061 IMMUNOLOGY

At the end of this course, the student will be able to describe and analyze the structure and function of molecules and cells that participate in an immunologic response in humans and to analyze the conceptual and operational management of immune, stage, cell and tissue responses.

LCN4051 NUTRITION AND PHYSIOLOGY OF EXERCISE

At the end of this course, the student will be able to understand physiological changes in the human body through exercise, and how different nutrients are absorbed during exercise, as well as what additional nutritional demands are required and how to supply them in the diet. The student will use this knowledge for therapy through exercise for people with various dietary disorders, as well as those recovering from an illness.

LMR2061 NUTRITION AND METABOLISM

At the end of this course, the student will be able to recognize the importance of foods as nutrition providers, understanding the requirements, ways in which nutrients are assimilated by the body, and their physiologic and metabolic functions. The student will realize the importance of clinical nutrition as equilibrium to prevention, diagnosis and disorder in different degrees of health and disease.

LMR2071 MEDICAL PHARMACOLOGY II

At the end of this course, the student will be able to apply the general principles of pharmacology in current therapeutics, evaluating the options and uses of drugs as a function of the body's system, as well as the main therapeutic indications, pharmacological interactions, contraindications and side effects.

LMR2081 PRINCIPLES OF MEDICAL PRACTICE

At the end of this course, the student will be able to understand, develop and master the basics of clinical thinking when approaching a patient, by the initial contact, questioning and

physical examination, sustained by scientific reasoning, ethics and critical attitude, relating his/her knowledge with diagnosis, adequate treatment and prognosis.

LMR2091 MEDICAL PSYCHOLOGY

At the end of this course, the student will be able to analyze the origin, development and principles that sustain medical psychology as an important part of the doctor-patient relationship, and the way that the student is able to establish a relationship with its organic problems.

LMR2121 HUMAN GENETICS

At the end of this course, the student will be able to apply the general principles of human genetics and differentiate the bases that govern character inheritance in generations. The student will also learn the causes of genetic variation in living creatures, the genetic component in human genetics and determine the importance of genetics in the future of medicine.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LMR3011 GYNECOLOGY AND OBSTETRICS II

At the end of this course, the student will be able to understand, integrate and master the basics of pathology in gynecology and obstetrics, developing interpersonal and communication capabilities that bring about a better interaction between doctor and patient, applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR3021 ENDOCRINOLOGY

At the end of this course, the student will be able to master the fundamentals of internal medicine in the area of endocrinology, analyzing the functional changes that are present during sickness and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR3031 INFECTIOUS DISEASE

At the end of this course, the student will be able to master the fundamentals of Internal Medicine in the area of infectious disease, analyzing the functional changes that are present during sickness and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR3041 BIOETHICS AND QUALITY IN HEALTH CARE SERVICES

At the end of this course, the student will be able to analyze the ethical values and legal rules that may apply in situations related to health care, highlighting their importance in a doctor's professional practice to safeguard the dignity and rights of his/her patients, through the practice of quality and warmth in health care services.

LMR3051 CLINICAL HEMATOLOGY

At the end of this course, the student will be able to master the fundamentals of internal medicine in the area of hematology, analyzing the functional changes that are present during sickness and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR3061 PEDIATRICS I

At the end of this course, the student will be able to master the fundamentals of the assessment of a pediatric patient, analyzing the functional changes that are present in pediatric diseases, and applying scientific reasoning and a critical attitude which correlate knowledge in pediatrics with adequate diagnoses and treatments.

LMR3071 GENERAL SURGERY

At the end of this course, the student will be able to master the principles of basic surgical education, analyzing and integrating adequate techniques, applying scientific reasoning and critical attitude that correlates knowledge of surgical diseases with diagnosis and adequate treatment.

LMR3081 FAMILY AND COMMUNITY MEDICINE

At the end of this course, the student will be able to analyze the theory of family and social community in their environment, looking to integrate both concepts with the purpose of obtaining social and professional commitment attitudes to promote, preserve, improve, restore and rehabilitate health in people and their everyday environment.

LMR3091 CLINICAL PRACTICES I

At the end of this course, the student will be able to apply the knowledge acquired in gynecology and obstetrics, endocrinology, infectious disease, hematology, pediatrics, general surgery and family and community medicine in field clinics.

SIXTH SEMESTER

LMR3101 GYNECOLOGY AND OBSTETRICS II

At the end of this course, the student will be able to understand, integrate and master the basics of pathology in gynecology and obstetrics, developing interpersonal and communication capabilities that bring about a better interaction between doctor and patient, applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR3111 PEDIATRICS II

At the end of this course, the student will be able to master the fundamentals of the assessment of pediatric symptoms, analyzing the functional changes that are present in pediatric diseases, and applying scientific reasoning and a critical attitude which correlate knowledge in pediatrics with adequate diagnoses and treatments.

LMR3121 NEUROLOGY

At the end of this course, the student will be able to master the fundamentals of internal medicine in the area of neurology, analyzing the functional changes that are present during disease and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR3131 CARDIOLOGY

At the end of this course, the student will be able to master the fundamentals of internal medicine in the area of cardiology, analyzing the functional changes that are present during sickness and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR3141 PULMONOLOGY

At the end of this course, the student will be able to apply the anatomical, physiological, clinical and methodological bases for the diagnosis and treatment of the main pathologies of the respiratory system that affect the population. This knowledge will be acquired through clinical and meta-analysis guides of the particular nosological entity.

LMR3151 OTOLARYNGOLOGY

At the end of this course, the student will be able to master the fundamentals of otolaryngology, analyzing the functional changes that are present during disease and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR3161 RADIOLOGY

At the end of this course, the student will be able to master the fundamentals of radiology, analyzing the functional changes that are present during sickness and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR3171 GASTROENTEROLOGY AND GASTRIC SURGERY

At the end of this course, the student will be able to understand, correlate, develop and master the facts of the main digestive system's surgical ailments, as well as establish a correlation between anatomy and pathophysiology that warrants surgery, respecting surgical principles and timings.

LMR3181 DECISION-MAKING ANALYSIS

At the end of this course, the student will be able to show the

required clinical aptitudes in his/her professional activity, through the formation of ideal scenarios, as well as through the development of critical capacity, that allow him/her to give a high-quality, opportune answer to the population's health needs, sustained in medicine which is based on evidence and/or learning.

LMR3191 CLINICAL PRACTICES II

At the end of this course, the student will be able to apply the knowledge acquired gynecology and obstetrics, pediatrics, neurology, cardiology, pulmonology, otolaryngology, radiology, gastroenterology, and gastric surgery in field clinics.

SEVENTH SEMESTER**LMR4011 NEUROSCIENCE**

At the end of this course, the student will be able to master the fundamentals of neuroscience, analyzing the functional changes that are present during disease and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR4021 RHEUMATOLOGY

At the end of this course, the student will be able to master the fundamentals of internal medicine in the area of rheumatology, analyzing the functional changes that are present during sickness and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR4031 DERMATOLOGY

At the end of this course, the student will be able to master the fundamentals of internal medicine in the area of dermatology, analyzing the functional changes that are present during sickness and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR4041 ORTHOPEDICS

At the end of this course, the student will be able to master the fundamentals of orthopedics, analyzing the changes that are present in the muscle-skeletal or neuromuscular systems and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR4051 OPHTHALMOLOGY

At the end of this course, the student will be able to dominate the fundamentals of ophthalmology, analyzing the functional disorders that manifest during disease of this specialty and applying scientific reasoning and critical attitude to correlate knowledge with pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR4061 HEALTH ECONOMICS

At the end of this course, the student will be able to analyze the theory of administrative processes, defining its strengths and

weaknesses, understanding some alternative theories that allow the student to know the administrative process as a key to the correct working order of health services.

LMR4071 PSYCHIATRY

At the end of this course, the student will be able to dominate the fundamentals of psychiatry, analyzing the functional disorders that manifest during mental illness and applying scientific reasoning and critical attitude to correlate knowledge with pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation

LMR4081 BIostatISTICS

At the end of this course, the student will be able to apply the most common analysis and data interpretation methods, through the extraction, inspection, classification, description, presentation and inference based on theoretical and practical bases. This information will allow the student to distinguish, manipulate, compare and reorganize information to explain decision-making

LMR4091 RESEARCH SEMINAR I

At the end of this course, the student will be able to incorporate the theoretical-practical knowledge acquired during his/her studies for the solution of a concrete problem within the selected field of study.

LMR4101 CLINICAL PRACTICES III

At the end of this course, the student will be able to apply the knowledge acquired in neurosurgery, rheumatology, dermatology, orthopedics, ophthalmology and psychiatry in field clinics.

EIGHTH SEMESTER

LMR4111 OCCUPATIONAL MEDICINE

At the end of this course, the student will be able to identify the health risk factors derived from work, diagnosing pathological manifestations that are a consequence of different work activities. The student will learn to apply adequate preventive measures and know the current labor legislation.

LMR4121 LEGAL AND FORENSIC MEDICINE

At the end of this course, the student will be able to understand and master the basics of Legal Medicine within the basic studies of medicine, understanding the basics of professional development from a legal perspective, not just penal. The student will also know the existing elements of forensic medicine.

LMR4131 EMERGENCY MEDICINE

At the end of this course, the student will be able to dominate the basics of emergency medicine as an integral element, applying scientific reasoning with a critical attitude that correlates the knowledge of pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR4141 UROLOGY

At the end of this course, the student will be able to understand, correlate, develop and master the facts of the main urological surgical ailments, as well as establish a correlation between anatomy and pathophysiology that warrants surgery, respecting surgical principles and timings.

LMR4151 CRITICAL CARE MEDICINE AND ANESTHESIOLOGY

At the end of this course, the student will be able to dominate the fundamentals of critical care medicine and anesthesiology, analyzing the functional disorders that manifest during illness and applying scientific reasoning and critical attitude to correlate knowledge with pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR4161 GERIATRICS

At the end of this course, the student will be able to dominate the fundamentals of geriatrics, analyzing the functional disorders that manifest during disease and applying scientific reasoning and critical attitude to correlate knowledge with pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

LMR4171 NEPHROLOGY

At the end of this course, the student will be able to dominate the basics of nephrology, analyzing the functional disorders that manifest during illness.

LMR4181 MEDICAL ONCOLOGY

At the end of this course, the student will be able to dominate the basics of oncology, analyzing the functional disorders that manifest during disease.

LMR4191 RESEARCH SEMINAR II

At the end of this course, the student will be able to incorporate the theoretical-practical knowledge acquired during his/her studies for the solution of a concrete problem within the selected field of study.

LMR4201 CLINICAL PRACTICES IV

At the end of this course, the student will be able to apply the knowledge acquired in emergency medicine, urology, critical care medicine, anesthesiology, geriatrics, nephrology and oncology in field clinics.

*Restrictions apply.

NANOTECHNOLOGY AND MOLECULAR ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX011 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LNM1011 INTRODUCTION TO NANOSCIENCE AND NANOTECHNOLOGY

At the end of this course, the student will be able to identify the field of nanoscience and nanotechnology, understanding some of the development challenges of the areas as well as existing applications.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1031 INORGANIC CHEMISTRY I

At the end of this course, the student will be able to know and manage in a correct and precise fashion the concepts of chemical bonds, electronegativity, molecular symmetry and atomic structure of ionic and molecular solids, as well as the Pearson acid-base concept and the periodic properties of metals.

LQU1041 INORGANIC CHEMISTRY LAB I

At the end of this course, the student will be able to relate the structure of an inorganic compound with its chemical and physical properties. He/She will identify the methods of preparation of inorganic compounds.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately

LQU1061 ORGANIC CHEMISTRY LAB I

At the end of this course, the student will be able to apply the knowledge acquired to assemble equipment used in organic chemistry and performing synthesis, separation, purification and identification operations. He/She will integrate his/her work the rules of personal safety, observing best practices in the laboratory as well as when handling dangerous residues

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER**FIS2011 MECHANICS**

At the end of this course, the student will be able to analyze and apply Newton's laws and concepts of momentum and energy conservation. The student will be able to show the ability to learn and update his/her knowledge of the modeling of physical phenomena using energy concepts.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU2011 PHYSICOHEMISTRY I

At the end of this course, the student will be able to interpret the different energy exchange processes, through the adequate use of thermodynamic principles, calculating heat reaction and relating them correctly to standard states, applying the criteria of spontaneity and equilibrium of diverse chemical and biological systems, correctly using the concept of chemical potential to interpret physicochemical phenomena

LQU2021 PHYSICOHEMICAL LAB I

At the end of this course, the student will be able to generate and interpret graphs to obtain information regarding thermodynamic parameters, and evaluate the accuracy of his/her results, based on error analysis, recognizing that physicochemistry is a multi-disciplinary subject.

LQU2031 ORGANIC CHEMISTRY II

At the end of this course, the student will be able to describe the different reaction mechanisms of organic compounds, and explain the relationship between properties and transformation of different functional organic groups.

LQU2041 ORGANIC CHEMISTRY LAB II

At the end of this course, the student will be able to use the skills acquired to execute an organic chemistry reaction. He/She will implement the physical and instrumental methods to identify an organic compound, observing best practices in the laboratory, as well as when handling dangerous reactants.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

MEC2011 MATERIAL SCIENCE

At the end of this course, the student will be able to fully understand the properties, structure and materials derived from different chemical compounds, from the point of view of chemistry, and analyzing the technological applications that nanostructured materials have, as well as understanding the relationship between molecular structure and properties at a microscopic level.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

ELE2011 ELECTRONICS I

At the end of this course, the student will be able to apply basic definitions and concepts of electronics and will be able to recognize basic analysis techniques of direct current resistive circuits. The student is also able to define webs, nodes, Thevenin's theorem, Norton, overlay and to use important measurement instruments such as the oscilloscope, generator, and sources, knowing fundamental simulation of circuits using Spice.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LNM2011 NANOMATERIALS I

At the end of this course, the student will be able to establish a nanomaterial classification based on composition and form, understanding the different synthesis methods (chemical and physical). The student will also characterize through spectroscopic and microscopic means different nanomaterials.

LNM2021 NANOMATERIALS LAB I

At the end of this course, the student will be able to understand the relationship that exists between the structure and properties of molecules, including those at a macroscopic level. The student will also handle lab material and chemical substances, following the safety rules when using materials and reagents. Through this use, the student will explain some of the most common experimental techniques and physicochemical characterizations of micro and nanostructured materials, evaluating the catalytic, photochemical, electrochemical, sensory, biomedical applications of the materials prepared according to their physical and chemical properties. The student will evaluate the need to use some advanced instrumental techniques of material characterization for a specific material.

LQU2051 ANALYTICAL CHEMISTRY

At the end of this course, the student will be able to identify the principles of analytical chemistry, and apply them to the solution of chemistry, biology and health problems.

LQU2061 ANALYTICAL CHEMISTRY LAB

At the end of this course, the student will be able to manip-

ulate the material and lab equipment utilized in analytical chemistry, learning the techniques of chemical analysis normally employed in quality control labs.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

ELE2021 ELECTRONICS II

At the end of this course, the student will be able to identify different measurement systems derived from the use of transducers used in electronics, both analog and digital geared for measuring a physical magnitude, evaluating characteristics and properties of measurement systems and to tailor systems to meet the needs of specific problems. The student is also able to identify different sensor types, classified by the physical principles on which they are based and the tendencies of new devices in the field.

FIS3011 ELECTROMAGNETISM

At the end of this course, the student will be able to understand electric and magnetic phenomena, analyzing everyday situations and identifying such phenomena to solve problems related to them. Also, the student will be able to transfer learned processes to mathematical language to quantify them.

LFA3011 EXPERIMENTAL ELECTROMAGNETISM

At the end of this course, the student will be able to use his/her knowledge of electromagnetism, proposing free practices to understand electric and magnetic phenomena in experimental situations, as well as to analyze experimental situations and know their applications.

LNM3011 NANOMATERIALS II

At the end of this course, the student will be able to understand the reach and limitations of unimolecular, super mo-

lecular and supramolecular systems in the construction and application of molecular machines, molecular sensors and molecular electronic devices. The student will apply his/her characterization technique, and chemical synthesis design knowledge, to implement and propose procedures to obtain useful molecular materials for advanced technological applications, recognizing the most important characteristics of biomaterials including their preparation and application methods. Throughout this course, the student will acquire important conceptual skills in nanomaterial applications in medicine and the toxicology of nanostructured materials.

LQU3031 PHYSICOCHEMISTRY II

At the end of this course, the student will be able to analyze in detail the velocity of reaction and the evaluation of kinetic parameters, knowing and interpreting the electrochemical phenomena, as well as understanding the nature and applications of colloidal chemistry.

LQU3041 PHYSICOCHEMISTRY LAB II

At the end of this course, the student will be able to apply experimental techniques to the study of reaction kinetics of homogeneous and heterogeneous systems.

SIXTH SEMESTER

LFA3051 MODERN PHYSICS

At the end of this course, the student will be able to analyze 20th century physics, emphasizing the problems of classical physics that gave rise to the relativity theory and quantum mechanics. The student will be able to handle quantum phenomena and solve problems in these areas.

LFA3061 EXPERIMENTAL MODERN PHYSICS

At the end of this course, the student will be able to master an outlook of experimental background of modern physics from the analysis of classical physics to the handling of experimental methods of modern physics. The student will use computer monitoring techniques for experimental data processing.

LNM3021 NANOBIOLOGY

At the end of this course, the student will be able to define each of the different biomolecules in cells, as well as cellular biostructures that exist in nature, which have the possibility to be used as nanostructures. Using this information, the student will propose biological nanostructured models.

LNM3031 NANOBIOLOGY LAB

At the end of this course, the student will be able to carry out basic lab tests applied to the investigation of biomolecules. The student will also carry out research regarding the use and effect of nanomaterials in vitro and in vivo.

LNM3041 MATERIAL NANOTECHNOLOGY

At the end of this course, the student will be able to visualize the importance of nanotechnology, specifically nanomaterial technology in specific and important applications of everyday life.

LNM3051 NANOMATERIALS LAB II

At the end of this course, the student will be able to correctly use lab material and chemical substances in the study and design of nanostructured materials, observing safety rules. The student will also be able to name some of the most common preparation and physical characterization methods of chemical sensors. He/She will also develop mechanisms and apply basic techniques for the evaluation of capacity as a sensor of materials, recognizing the different physicochemical characterization techniques of surfaces and recognizing the importance of surface study in the preparation of materials and evaluation of its applications.

LQU4071 ADVANCED PHYSICOHEMISTRY

At the end of this course, the student will be able to understand and correctly use the terms and basic concepts of the interfaces and physicochemistry of surfaces, analysing the different interactions between a substratum and adsorbate, emphasizing in the adsorption models based on the surface's morphological characteristics. The student will understand the diverse methods to analyze geometric characteristics of surfaces, and the structural arrangement and composition of surfaces.

SEVENTH SEMESTER**LNM4011 PROFESSIONAL PRACTICES I**

At the end of this course, the student will be able to apply his/her knowledge and acquire skills by integrating to multi-disciplinary teams to carry out specific tasks in the different areas of nanotechnology, thus solving adaptation situations in a new work environment.

LNM4021 NANOTECHNOLOGY AND SOCIETY

At the end of this course, the student will be able to analyze the impact of nanoscience and nanotechnology in society, evaluating the risks and benefits of these technologies, as well as the debated topics regarding impact and the meaning of nanotechnology in society, such as productivity and equality, quality of life, future social scenarios, future economic scenarios, converging technologies, national security, space exploration, ethics, government, risk and uncertainty, public policy, international and legal aspects, public interaction, education and human development.

LQU3061 INORGANIC CHEMISTRY II

At the end of this course, the student will be able to correctly and precisely handle the fundamental concepts of coordination chemistry of transition metals, dative bonds, electronic theories, organometallic compounds, periodic properties of elements of the principal group, and rules of stabilization of atomic cumulus.

LQU3071 INORGANIC CHEMISTRY LAB II

At the end of this course, the student will be able to explain the relationship between the structure of an inorganic compound and its reactions, and will be able to state the main steps of the

complex, organometallic compound, and metallic cumulus synthesis methods.

LQU4031 INSTRUMENTAL ANALYSIS

At the end of this course, the student will be able to efficiently use different instrumental analysis techniques, establishing an adequate methodology for the development of a full chemical analysis, applying the necessary criteria to correctly interpret the experiment's results through the use of physicochemical methods of analysis.

LQU4041 INSTRUMENTAL ANALYSIS LAB

At the end of this course, the student will be able to identify and quantify the analyte of a sample through physicochemical treatment and analysis through instruments of said sample.

TNM4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply and correlate the acquired knowledge on a subject of nanotechnology from an up-to-date point of view.

EIGHTH SEMESTER**LFA3041 EXPERIMENTAL OPTICS**

At the end of this course, the student will be able to handle experimentally optical phenomena such as interference, diffraction, reflection and refraction of light waves, and to solve problems in these areas. The student will translate studied processes to mathematical language in order to quantify them and know their applications.

LNM4031 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply his/her knowledge and acquire skills by integrating to multi-disciplinary teams to carry out specific tasks in the different areas of Nanotechnology, thus resolving adaptation situations in a new work environment.

TNM4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply and correlate the acquired knowledge on a subject of nanotechnology from an up-to-date point of view.

TNM4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply and correlate the acquired knowledge on a subject of nanotechnology from an up-to-date point of view.

NURSING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEF1011 ANATOMO-PHYSIOLOGY WITH A CLINICAL EMPHASIS I

At the end of this course, the student will be able to acquire the necessary knowledge to describe the structure and normal function of the human body, as a foundation for the knowledge of disease in an individual.

LEF1021 HISTORY AND PHILOSOPHY OF NURSING

At the end of this course, the student will be able to master, know and identify the history of nursing through its evolution and advances in its philosophic discipline, and to value nursing as a profession that requires knowledge, critical and creative thinking abilities, as well as scientific and legal bases that allow graduates in this discipline to work with leadership in the health sector.

LEF1031 NURSING SKILLS I

At the end of this course, the student will be able to demonstrate skills when performing theoretical-practical nursing procedures for the integral care of healthy and sick individuals, showing basic dexterity to take care of patients, in an efficient, effective and timely manner by identifying the basic needs of sick and healthy individuals, through nursing evaluation and diagnoses, as well as the delivery of lab reports as the result of scientific evidence.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEF1041 SURGICAL PATHOLOGY

At the end of this course, the student will be able to master the fundamentals of surgical pathology and demonstrate skill and dexterity in describing the structure and function of surgical pathologies of the human body, in order to diagnose disease in an individual.

LEF1051 ANATOMO-PHYSIOLOGY WITH A CLINICAL EMPHASIS II

At the end of this course, the student will be able to build up knowledge to describe the normal structure and function of the human body, as a foundation for the knowledge of disease in an individual.

LEF1061 NURSING SKILLS II

At the end of this course, the student will be able to develop skills to tend to the basic needs of a human being, using nursing processes and guiding his/her professional actions towards a maximum of self-care in an individual.

LEF1071 CLINICAL ABILITIES AND SKILLS I

At the end of this course, the student will be able to develop practical knowledge through experience and reflection, using theoretical knowledge in clinical practice. The student will also learn and provide personalized nursing care with an integral and ethical vision, by developing professional attitudes and abilities.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMR2061 NUTRITION AND METABOLISM

At the end of this course, the student will be able to recognize the importance of foods as nutrition providers, understanding the requirements, ways in which nutrients are assimilated by the body, and their physiologic and metabolic functions. The student will realize the importance of clinical nutrition as equilibrium to prevention, diagnosis and disorder in different degrees of health and disease.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LCN4051 NUTRITION AND PHYSIOLOGY OF EXERCISE

At the end of this course, the student will be able to understand physiological changes in the human body through exercise, and how different nutrients are absorbed during exercise, as well as what additional nutritional demands are required and how to supply them in the diet. The student will

use this knowledge for therapy through exercise for people with various dietary disorders, as well as those recovering from an illness.

LEF2011 NURSING PHARMACOLOGY

At the end of this course, the student will be able to master the conceptual and operational management of the principles of pharmacology, as well as to discern families of drugs most used in our environment, and to learn their dynamics as well as their therapeutic and side effects.

LEF2021 MEDICAL SURGERY NURSING SKILLS

At the end of this course, the student will be able to describe the pathophysiological mechanisms of diseases, identifying each of their clinical manifestations, and identifying human needs that are altered by them, as well as nursing problems and potential complications.

LEF2031 CLINICAL ABILITIES AND SKILLS II

At the end of this course, the student will be able to describe the pathophysiological mechanisms of diseases, identifying each of their clinical manifestations, identifying human needs that are altered by them, as well as nursing problems and potential complications. The student will be able to apply this theoretical knowledge with careful attention to techniques and procedures.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMR1071 MEDICAL MICROBIOLOGY AND PARASITOLOGY

At the end of this course, the student will be able to master the basics of microbiology and parasitology, and have a scientific, logical and systematic mindset when using the appropriate technology to collect and identify microorganisms such as bacteria, viruses and fungi of clinical interest in medicine. The student will describe in a critical way the diagnosis and treatment of each type of infection.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LEF2041 PUBLIC HEALTH NURSING SKILLS

At the end of this course, the student will have acquired the necessary knowledge to implement health promotion programs in the community, through prevention, specific protection and rehabilitation of sick and healthy individuals and to exert nursing care in public health.

LEF2051 PEDIATRIC PATHOLOGY

At the end of this course, the student will be able to master the fundamental of pediatric patient evaluation, as well as analyze functional alterations present in pediatric illnesses, using scientific reasoning and critical attitude that correlates the knowledge of general pediatrics with the correct diagnosis and treatment based on nursing processes.

LEF2061 HUMAN DEVELOPMENT PSYCHOLOGY

At the end of this course, the student will be able to know and explain the importance of human development psychology and its stages, from fertilization, infancy, childhood, adolescence, adulthood to end of life.

LEF2071 CLINICAL ABILITIES AND SKILLS III

At the end of this course, the student will be able to provide nursing care to a population requiring reproductive health services and newborn care, incorporating risk approach. At the same time, the student will develop diagnostic and therapeutic abilities directed to reproductive health, using nursing care to favor the evolution of this process.

LEF2081 GYNECOLOGY

At the end of this course, the student will be able to use theoretical and practical knowledge in the area of gynecology to detect high risk pregnancies and channel them for different levels of attention, and to practice nursing care in women of reproductive age in a holistic way, maintaining and recovering health, while part of a team that cares integrally for mother and baby, minimizing mortality and morbidity indexes in a population.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LEF3011 QUALITY IN HEALTH SERVICES

At the end of this course, the student will be able to focus on practicing and applying marketing and quality strategies in health services organizations, as well as understanding service organizations on their own. With this information, the student will be able to adjust goals, marketing and quality strategies accordingly.

LEF3021 NURSING PROCESS

At the end of this course, the student will be able to discern the dynamics of the nursing process through reviewing care stages, in order to identify them both in a hospital and at home settings.

LEF3031 INFANTS AND ADOLESCENTS NURSING SKILLS

At the end of this course, the student will be able to know and analyze different characteristics of infancy and adolescence, stressing those that are totally human in nature, as well as various pathologies of sexually transmitted diseases, diagnosis and clinical treatment of such diseases, using the nursing process.

LEF3051 OBSTETRICS

At the end of this course, the student will be able to understand obstetric nursing as a science, by continued study at a higher level, and to integrate fundamental concepts and work methodology for the holistic care of individuals and groups, linking health problems with basic human needs.

SIXTH SEMESTER

LEF3061 SPECIALTY DISEASES

At the end of this course, the student will have acquired dexterity and skills in the integral care of patients with different diseases in organs and systems, so the student will be able to act timely and efficiently to foster health, using the nursing process in different hospital services.

LEF3071 BIOETHICS IN NURSING

At the end of this course, the student will be able to analyze ethical criteria and legal rules to provide professional services in the health areas, understanding the professional paradigm of nursing and detecting dilemmatic situations in a hospital environment and their legal implications.

LEF3081 CLINICAL ABILITIES AND SKILLS V

At the end of this course, the student will be able to integrate nursing knowledge to his/her professional development in hospitals, and will be able to give a holistic attention to adults and children in clinical practice and emergency situations. The student will be able to analyze education processes in health education institutions and provide innovative proposals to train professional nurses.

LEF3091 OBSTETRICAL NURSING CARE

At the end of this course, the student will be able to develop practical knowledge through experience and reflection, using theoretical knowledge and simulated clinical practice in the lab, to expand professional abilities and competences.

LMR4071 PSYCHIATRY

At the end of this course, the student will be able to dominate the fundamentals of psychiatry, analyzing the functional disorders that manifest during mental illness and applying scientific reasoning and critical attitude to correlate knowledge with pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation

LMR4161 GERIATRICS

At the end of this course, the student will be able to dominate the fundamentals of geriatrics, analyzing the functional dis-

orders that manifest during disease and applying scientific reasoning and critical attitude to correlate knowledge with pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

SEVENTH SEMESTER

LEF4011 PSYCHIATRIC NURSING SKILLS

At the end of this course, the student will be able to identify human needs that serve as a basis for nursing care, considering the whole person and applying principles and procedures of psychiatric nursing.

LEF4021 GERIATRIC NURSING SKILLS

At the end of this course, the student will integrate to his/her professional development nursing knowledge in the hospital area to care holistically for geriatric patients, using the nursing process in the three attention levels, in daily life activities to limit health damages.

LEF4031 THANATOLOGY NURSING SKILLS

At the end of this course, the student will have the basic knowledge of thanatology, in order to have a vision towards death and loss as natural processes of a life cycle beginning with birth and ending in death.

LEF4041 PREHOSPITAL NURSING SKILLS

At the end of this course, the student has acquire knowledge related to the prehospital holistic care of an adult critical patient, with timely detection of conditions that threaten his/her life and offering early attention.

LEF4051 NURSING RESEARCH

At the end of this course, the student will master research methodology in scientific research papers aided by qualitative and quantitative methods, and through observation and experimentation, using tools as epidemiology and biostatistics to conduct actual research to solve health problems.

LEF4061 CLINICAL ABILITIES AND SKILLS VI

At the end of this course, the student will be able to identify human needs as a basis for nursing care, considering each person individually and totally and using nursing principles and procedures in geriatric patients, so the patient can care for him/herself and his/her relationships in general.

EIGHTH SEMESTER

LEF4071 EDUCATIONAL SKILLS IN NURSING

At the end of this course, the student will be able to analyze health education as a deliberate social process and to identify and exert pedagogical-didactic strategies to direct nursing interventions in individuals or groups.

LEF4081 INDUSTRIAL NURSING SKILLS

At the end of this course, the student will be able to incorporate to his/her professional development nursing knowledge in the industrial area that allow for holistic attention of adult

patients, as well as to detect health situations originated in working areas and to start managing those situations.

LEF4091 ECOLOGY AND HEALTH EDUCATION

At the end of this course, the student will be able to gain knowledge of ecology, realizing that individuals are an integral part of nature. The student will also be able to detect implications of environmental alterations on human health.

LEF4101 NURSING MANAGEMENT SKILLS

At the end of this course, the student will be able to analyze the elements of nursing management skills as well as those related to quality control in the care given by health institutions.

LEF4111 THESIS

At the end of this course, the student will be able to demonstrate his/her ability to integrate theoretical and practical knowledge acquired throughout his/her studies for the research and solution of a concrete problem in his/her discipline.

LEF4121 CLINICAL ABILITIES AND SKILLS VII

At the end of this course, the student will be able to use and analyze the elements of care and services management within health organizations and industry, as well as those related to the quality of care given in health matters.

*Restrictions apply.

NUTRITION SCIENCE

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LCN1011 INTRODUCTION TO NUTRITION

At the end of this course, the student will be able to identify the professional fields where a nutritionist can work today

LEX011 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LCN1021 NUTRITIONAL DIAGNOSTIC

At the end of this course, the student will be able to identify anthropometric techniques to evaluate the nutritional status of people, and to perform and interpret clinical analysis to determine nutritional status.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately

LQU2051 ANALYTICAL CHEMISTRY

At the end of this course, the student will be able to identify the principles of analytical chemistry, and apply them to the solution of chemistry, biology and health problems.

LQU2061 ANALYTICAL CHEMISTRY LAB

At the end of this course, the student will be able to manipulate the material and lab equipment utilized in analytical chemistry, learning the techniques of chemical analysis normally employed in quality control labs.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LBI2081 MICROBIOLOGY

At the end of this course, the student will be able to correctly explain the structure, metabolism, and growth conditions of microorganisms, as well as to describe the techniques to culture and quantify them, and to select adequate methods for their control.

LBI2091 MICROBIOLOGY LAB

At the end of this course, the student will be able to work in sterile conditions and to develop needed lab abilities to handle, grow and preserve microbiological specimens.

LCN2011 DIETARY CALCULATION WORKSHOP

At the end of this course, the student will be able to identify the techniques used to determine the nutritional makeup of the diet ingested by a person or group of people. The student will know the sources of information about the chemical composition of fresh and processed food and will learn how to use this information for nutritional estimates.

LEXO131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU2011 PHYSICOHEMISTRY I

At the end of this course, the student will be able to interpret the different energy exchange processes, through the adequate use of thermodynamic principles, calculating heat reaction and relating them correctly to standard states, applying the criteria of spontaneity and equilibrium of diverse chemical and biological systems, correctly using the concept of chemical potential to interpret physicochemical phenomena

LQU2071 BIOCHEMISTRY I

At the end of this course, the student will be able to correctly describe the structure, physicochemical characteristics, function and interaction of biomolecules, as well as the methodology used for their study.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

ALI2011 FOOD SCIENCE

At the end of this course, the student will be able to identify the nutritional value of each fresh and processed food group, and the methods used to determine the chemical composition of foodstuffs. The student knows the main methods to preserve food and the additives used in processed food, as well as the effects of such processing on the nutritional value of food.

LBI2051 CELLULAR BIOLOGY

At the end of this course, the student will be able to understand the structure, organization, partitioning, and cellular complexity needed to support vital phenomena in unicellular organism, as well as their integration into multi-cellular organisms.

LCF2011 GENERAL PHARMACOLOGY

At the end of this course, the student will be able to identify pharmacology's bases for current therapies and to express him/herself correctly, using specific pharmacology terms. The student will understand today's challenges in pharmacology

to discover new drugs through their actions on an organism and the circumstances that alter their response to a pharmaceutical treatment.

LCN2031 GOOD CULINARY PRACTICES

At the end of this course, the student will be able to apply the basic methods of measurement, equipment use, health standards and hygiene techniques to handle foodstuffs. The student will apply basic techniques of food preparation without loss of nutritional value.

LCN2041 FOOD PREPARATION

At the end of this course, the student will be able to use the knowledge acquired in previous courses about nutritional and energetic estimates of menus to design the most adequate menus to solve specific nutritional problems and produce balanced diets using recommended cooking methods.

LQU3101 BIOCHEMISTRY II

At the end of this course, the student will be able to correctly describe the metabolic routes, their regulation, their interrelationships and the organs or tissue where these happen. The student will be able to analyze the metabolism in normal physiological situations.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LBC3021 ANATOMY AND PHYSIOLOGY

At the end of this course, the student will be able to interpret the physiological processes of the main systems and apparatus of the human body.

LBI3021 MOLECULAR BIOLOGY

At the end of this course, the student will be able to describe correctly, in writing, the relationship between structure and function of nucleic acids, molecular mechanisms involved in the flow of complex control information in prokaryotes and eukaryotes. The student will solve problems of his/her particular field by using molecular biology tools.

LBI3031 EXPERIMENTAL BIOLOGY

At the end of this course, the student will be able to carry out lab tests applied to research in chemistry and biology, and acquire the skills to apply techniques to determine, qualitatively and quantitatively, bio-molecules and experimental parameters in live and in vitro models.

LCN3011 COMMUNITY NUTRITION

At the end of this course, the student will be able to use abilities learned through his/her studies to identify and study problems related to community nutrition, and to identify main problems of social nutrition in Mexico and in his/her region.

MAT2041 STATISTICAL INFERENCE

At the end of this course, the student will be able to use statistical inference tools to apply parametric and non-parametric tests in the systematical analysis of data used in the social sciences.

SIXTH SEMESTER**LBC3061 IMMUNOLOGY**

At the end of this course, the student will be able to describe and analyze the structure and function of molecules and cells that participate in an immunologic response in humans and to analyze the conceptual and operational management of immune, stage, cell and tissue responses.

LBC3071 PATHOPHYSIOLOGY

At the end of this course, the student will be able to interpret basic mechanisms of pathological processes shared by different diseases, as well as the specific mechanisms that are part of the production and clinical symptoms of such diseases.

LBC4071 TOXICOLOGY

At the end of this course, the student will be able to classify noxious substances present in the environment that act on living organisms, with regard to their origin, toxicity level, toxic-kinetics and toxic-dynamics. The student will know national and international norms that apply to toxicology, and will know the methodology needed to identify and analyze the clinical consequences of the actions of toxic substances of various origins that human beings are exposed to in order to prevent and treat intoxications.

LBI3121 GENETICS

At the end of this course, the student will be able to explain the principles that regulate heredity, as well as the causes of genetic variation in living beings.

LCN3031 EPIDEMIOLOGY AND PUBLIC HEALTH

At the end of this course, the student will be able to identify, characterize and evaluate public health and epidemiology problems through a multi-disciplinary approach.

LIA3041 NUTRITIONAL BIOCHEMISTRY

At the end of this course, the student will be able to: identify how each nutrient is digested, absorbed, transported, stored, and disposed of by humans, the metabolic functions of each nutrient and the effect of their excess and deficiency on human health, and know the nutrition requirements of each nutrient in healthy people, regarding their sex, age, physical constitution and origin, in order to find and use this information.

PSI2041 INTERVIEWING THEORY AND TECHNIQUES

At the end of this course, the student will be able to define, differentiate and recognize the different types of psychological interviews and their characteristics, learning the basic skills to conduct an interview.

SEVENTH SEMESTER**LBC4051 CLINICAL BIOCHEMISTRY**

At the end of this course, the student will be able to perform and interpret lab tests to determine alterations in carbohydrate, lipid, amino-acid, and protein metabolism. The student will discuss their role as diagnostic support in alterations of acid-base balance, hepatic, pancreatic, and cardiac pathologies of the organism.

LCN4011 CLINICAL NUTRITION

At the end of this course, the student will be able to interpret clinical nutrition diagnoses, knowing treatment approaches used in nutritional therapy and the design of therapeutic diets. The student will apply adequate technology to guarantee the health of people with nutritional disorders, older people and mother/fetus/baby.

LCN4021 CLINICAL CASES I

At the end of this course, the student will be able to intervene as a nutritionist in cases of patients with various dietary disorders, geriatric patients, and pregnant and post partum mothers and their babies.

LCN4031 NUTRIGENOMICS

At the end of this course, the student will be able to use concepts of nutritional genomics, to understand genomics and genetic regulation related to diet and to acknowledge the role and importance of nutrition in the prevention of polygenic diseases. The student will learn to use nutrigenomics, bioinformatics, nucleotide polymorphisms, microarrays, proteomics, metabolomics and system biology to design strategies for the prevention of chronic diseases such as cardiovascular disease, obesity, type 2 diabetes, metabolic syndrome and cancer. Also, the student will learn to use genomic data bases.

LCN4041 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply his/her knowledge to participate in inter-disciplinary teams to perform specific tasks in different areas of nutrition and to adapt to a new working environment.

TCN4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of nutritional science from an up-to-date point of view.

TCN4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of nutritional science from an up-to-date point of view.

EIGHTH SEMESTER**LCN4051 NUTRITION AND PHYSIOLOGY OF EXERCISE**

At the end of this course, the student will be able to understand physiological changes in the human body through exercise, and how different nutrients are absorbed during exercise, as well as what additional nutritional demands are required and how to supply them in the diet. The student will use this knowledge for therapy through exercise for people with various dietary disorders, as well as those recovering from an illness.

LCN4061 CLINICAL CASES II

At the end of this course, the student will be able to interact with medical teams and to participate as a nutritionist in the diagnosis and nutritional intervention in actual cases of patients with a variety of pathologies.

LCN4071 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply his/her knowledge to participate in inter-disciplinary teams to perform specific tasks in different areas of nutrition and to adapt to a new working environment.

LCN4081 CLINICAL NUTRITION II

At the end of this course, the student will be able to understand the epidemiology, physiopathology, diagnoses, classification and nutritional therapy in the digestive tract, liver, kidney, pancreas, blood and circulatory system diseases.

TCN4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of nutritional science from an up-to-date point of view.

PHARMACEUTICAL SCIENCES

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LCF1011 INTRODUCTION TO HEALTH SCIENCES

At the end of this course, the student will be able to have an integral and general vision of various concepts and methods to study human beings in health and in sickness. The student will learn the scientific bases for clinical diagnosis and therapy, as well as the relationship between health professionals and patients, medical care frameworks, disease prevention and health promotion.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately

LQU1061 ORGANIC CHEMISTRY LAB I

At the end of this course, the student will be able to apply the knowledge acquired to assemble equipment used in organic chemistry and performing synthesis, separation, purification and identification operations. He/She will integrate his/her work the rules of personal safety, observing best practices in the laboratory as well as when handling dangerous residues

LQU2051 ANALYTICAL CHEMISTRY

At the end of this course, the student will be able to identify the principles of analytical chemistry, and apply them to the solution of chemistry, biology and health problems.

LQU2061 ANALYTICAL CHEMISTRY LAB

At the end of this course, the student will be able to manipulate the material and lab equipment utilized in analytical chemistry, learning the techniques of chemical analysis normally employed in quality control labs.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU2011 PHYSICOHEMISTRY I

At the end of this course, the student will be able to interpret the different energy exchange processes, through the adequate use of thermodynamic principles, calculating heat reaction and relating them correctly to standard states, applying the criteria of spontaneity and equilibrium of diverse chemical and biological systems, correctly using the concept of chemical potential to interpret physicochemical phenomena

LQU2021 PHYSICOHEMICAL LAB I

At the end of this course, the student will be able to generate and interpret graphs to obtain information regarding thermodynamic parameters, and evaluate the accuracy of his/her results, based on error analysis, recognizing that physicochemistry is a multi-disciplinary subject.

LQU2031 ORGANIC CHEMISTRY II

At the end of this course, the student will be able to describe the different reaction mechanisms of organic compounds, and explain the relationship between properties and transformation of different functional organic groups.

LQU2041 ORGANIC CHEMISTRY LAB II

At the end of this course, the student will be able to use the skills acquired to execute an organic chemistry reaction. He/She will implement the physical and instrumental methods to identify an organic compound, observing best practices in the laboratory, as well as when handling dangerous reactants.

LQU2071 BIOCHEMISTRY I

At the end of this course, the student will be able to correctly describe the structure, physicochemical characteristics, function and interaction of biomolecules, as well as the methodology used for their study.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LBI2051 CELLULAR BIOLOGY

At the end of this course, the student will be able to understand the structure, organization, partitioning, and cellular complexity needed to support vital phenomena in unicellular organism, as well as their integration into multi-cellular organisms.

LBI2081 MICROBIOLOGY

At the end of this course, the student will be able to correctly explain the structure, metabolism, and growth conditions of

microorganisms, as well as to describe the techniques to culture and quantify them, and to select adequate methods for their control.

LBI2091 MICROBIOLOGY LAB

At the end of this course, the student will be able to work in sterile conditions and to develop needed lab abilities to handle, grow and preserve microbiological specimens.

LCF2011 GENERAL PHARMACOLOGY

At the end of this course, the student will be able to identify pharmacology's bases for current therapies and to express him/herself correctly, using specific pharmacology terms. The student will understand today's challenges in pharmacology to discover new drugs through their actions on an organism and the circumstances that alter their response to a pharmaceutical treatment.

LCF2021 PHARMACOGNOSY

At the end of this course, the student will be able to use extraction, separation and refining methods to identify natural substances and their pharmaceutical uses. The student will understand the transforming stages that a plant undergoes to become a drug, as well as the factors that influence this process.

LQU3101 BIOCHEMISTRY II

At the end of this course, the student will be able to correctly describe the metabolic routes, their regulation, their interrelationships and the organs or tissue where these happen. The student will be able to analyze the metabolism in normal physiological situations.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LBC3021 ANATOMY AND PHYSIOLOGY

At the end of this course, the student will be able to interpret the physiological processes of the main systems and apparatus of the human body.

LBI3021 MOLECULAR BIOLOGY

At the end of this course, the student will be able to describe correctly, in writing, the relationship between structure and function of nucleic acids, molecular mechanisms involved in the flow of complex control information in prokaryotes and eukaryotes. The student will solve problems of his/her particular field by using molecular biology tools.

LCF3021 CLINICAL PHARMACOLOGY

At the end of this course, the student will be able to describe pharmacokinetic and pharmacodynamic characteristics of the main drug groups, and apply general principles of pharmacology in present day therapies, assessing the choice of drugs regarding the body system they mainly act upon, as well as its therapy guidelines, drug interactions and side effects.

LCF3031 PHARMACEUTICAL TECHNOLOGY

At the end of this course, the student will be able to master the conceptual and operational use of various operations used to produce solid pharmaceuticals. The student will learn to choose the most adequate equipment for their production and to know quality tests they must fulfill under Mexican pharmaceutical standards, as well as master the conceptual and operational use of different ingredients in solid pharmaceuticals in order to choose them correctly.

LCF3041 PHARMACOLOGY LAB

At the end of this course, the student will be able to measure pharmacokinetic and pharmacodynamic processes and phenomena. Using basic principles of pharmacology and research animals, by processing, analyzing and interpreting research data in plasma concentration versus time, after using a systemic action drugs. The student will learn to use basic concepts of biopharmaceutics and pharmaceutical technology to formulate, make, and evaluate solid and semi solid drugs, identifying in addition quality control tests used in the pharmaceutical industry for these products.

LQU3031 PHYSICOCHEMISTRY II

At the end of this course, the student will be able to analyze in detail the velocity of reaction and the evaluation of kinetic parameters, knowing and interpreting the electrochemical phenomena, as well as understanding the nature and applications of colloidal chemistry.

SIXTH SEMESTER**LBC3061 IMMUNOLOGY**

At the end of this course, the student will be able to describe and analyze the structure and function of molecules and cells that participate in an immunologic response in humans and to analyze the conceptual and operational management of immune, stage, cell and tissue responses.

LBC3071 PATHOPHYSIOLOGY

At the end of this course, the student will be able to interpret basic mechanisms of pathological processes shared by different diseases, as well as the specific mechanisms that are part of the production and clinical symptoms of such diseases.

LBI3121 GENETICS

At the end of this course, the student will be able to explain the principles that regulate heredity, as well as the causes of genetic variation in living beings.

LCF3051 BIOPHARMACEUTICALS AND PHARMACOKINETICS

At the end of this course, the student will be able to describe different delivery ways for the use of drugs, related to the organs involved and to relevant factors in their absorption. The student will mathematically interpret the temporal evolution of drugs in the organism, at a plasma level as well as in different organs and behaviors. He/She will establish the relationship between a drug's physicochemical characteristics, its pharmaceutical presentations and its interaction with the organism, as well as assess the most relevant pharmacokinetic parameters for a particular patient and drug to personalize drug therapy for each patient. The student will predict changes in pharmacokinetic parameters relevant in patients with certain conditions or treated with specific groups of drugs.

LCF3061 DIAGNOSTIC MEDICAL MICROBIOLOGY

At the end of this course, the student will be able to use the principles of microbiology and parasitology in identifying microorganisms and parasites involved in infectious diseases in man and to interpret results of diagnostic microbiologic tests. The student will select effective anti-microbial treatments, knowing their source, transmission mechanism and susceptible population, as well as action mechanisms and resistance to anti-microbial base for treatment.

LCF3071 DIAGNOSTIC MEDICAL MICROBIOLOGY LAB

At the end of this course, the student will be able to identify microorganisms in a systematic way, in food and biological samples.

MAT2041 STATISTICAL INFERENCE

At the end of this course, the student will be able to use statistical inference tools to apply parametric and non-parametric tests in the systematic analysis of data used in the social sciences.

SEVENTH SEMESTER**LBI3031 EXPERIMENTAL BIOLOGY**

At the end of this course, the student will be able to carry out lab tests applied to research in chemistry and biology, and acquire the skills to apply techniques to determine, qualitatively and quantitatively, bio-molecules and experimental parameters in live and in vitro models.

LCF4011 PHARMACEUTICAL TECHNOLOGY II

At the end of this course, the student will be able to understand and know the thermodynamic principles associated with solubility, kinetics, solution behavior and interfaces, to use them in predicting, formulating, manufacturing and controlling the quality of liquid pharmaceuticals, dispersed systems, modified action drugs, conventional cosmetic forms and other pharmaceuticals. The student will know the cor-

rect preparation, allocation, ways to use and international parameters for quality control of the most common intravenous drugs in the industry, as well as the untimely way drugs are provided in health institutions where they are used.

LCF4021 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply his/her knowledge to participate in inter-disciplinary teams to perform specific tasks in different areas of pharmaceutical science and to adapt to a new working environment.

LQU4031 INSTRUMENTAL ANALYSIS

At the end of this course, the student will be able to efficiently use different instrumental analysis techniques, establishing an adequate methodology for the development of a full chemical analysis, applying the necessary criteria to correctly interpret the experiment's results through the use of physicochemical methods of analysis.

LQU4041 INSTRUMENTAL ANALYSIS LAB

At the end of this course, the student will be able to identify and quantify the analyte of a sample through physicochemical treatment and analysis through instruments of said sample.

TCF4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of pharmaceutical science from an up-to-date point of view.

TCF4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of pharmaceutical science from an up-to-date point of view.

EIGHTH SEMESTER

LBC4071 TOXICOLOGY

At the end of this course, the student will be able to classify noxious substances present in the environment that act on living organisms, with regard to their origin, toxicity level, toxic-kinetics and toxic-dynamics. The student will know national and international norms that apply to toxicology, and will know the methodology needed to identify and analyze the clinical consequences of the actions of toxic substances of various origins that human beings are exposed to in order to prevent and treat intoxications.

LCF4031 DEVELOPMENT OF PHARMACEUTICAL PRODUCTS

At the end of this course, the student will be able to propose methodology and select tools to develop a drug, cosmetic, herbal remedy or biotechnical products, choosing the most appropriate pharmaceutical form, the formula components, the formulation, process and manufacturing conditions, specifications and technological performance tests, as well as the quality characteristics and control factors that will guarantee the quality of processes and products. The student will know the minimum requirements demanded by health reg-

ulations for clinical trials, new drug approval and bio-equivalency studies.

LCF4041 DEVELOPMENT OF PHARMACEUTICAL PRODUCTS LAB

At the end of this course, the student will be able to consolidate knowledge and abilities in pharmacology, pharmaceutical technology, biopharmaceutics, and pharmacokinetics to propose and implement feasible strategies to manufacture a drug, cosmetic, herbal remedy or biotechnical product, designing experiments for the development of each phase in the development of new drugs, from its design, synthesis and elaboration until it reaches the market. The student will learn to use biopharmaceutical methods to formulate, administer and control the quality of drugs. Also, the student will design experiments to estimate pharmacokinetic parameters in humans and animals, estimating the usefulness of pharmacokinetic parameters to evaluate the efficacy of drugs and to design bioequivalence tests for the interchangeability of drugs.

LCF4051 HOSPITAL AND COMMUNITY PHARMACY

At the end of this course, the student will be able to organize and direct pharmacy services in hospitals and communities, as members of a team caring for patients. The student will develop pharmacy services and exercise quality pharmaceutical attention and according to current trends for pharmacy in our country, in order to accomplish a rational use of drugs to improve a patient's health.

LCF4071 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply his/her knowledge to participate in inter-disciplinary teams to perform specific tasks in different areas of pharmaceutical science and to adapt to a new working environment.

LCN3031 EPIDEMIOLOGY AND PUBLIC HEALTH

At the end of this course, the student will be able to identify, characterize and evaluate public health and epidemiology problems through a multi-disciplinary approach.

TCF4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply and relate the knowledge acquired in a given topic of pharmaceutical science from an up-to-date point of view.

PHYSICS

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LFA1011 INTRODUCTION TO PHYSICS

At the end of this course, the student will be able to use the main ideas in the evolution of physics and their resulting theories; and to pose and solve elementary physics problems.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

LME1011 ANALYTIC GEOMETRY

At the end of this course, the student will be able to: use vectors to calculate longitudes and angles and obtain line, plane, circumference and sphere equations, identify cones based on their equations and the application of axis translation and rotation, and to make changes between Cartesian and polar coordinates.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LFA1021 INTRODUCTIONS TO EXPERIMENTAL PHYSICS

At the end of this course, the student will be able to put in practice experimental physics methods in a way that his/her scientific knowledge is strengthened by the study of physical phenomena.

LIS1031 OBJECT-ORIENTED PROGRAMMING

At the end of this course, the student will be able to design and program with an object oriented paradigm. The student will also know and apply the design techniques, UML (Unified Modeling Language) notation and Java or C# programming languages.

LME1021 MATRIX THEORY

At the end of this course, the student will be able to apply the concepts and properties of elements defined in linear algebra to diverse problems of geometry, linear programming and differential equations.

LME1031 MATHEMATICAL ANALYSIS I

At the end of this course, the student will be able to understand and explain the theory of continuous functions, differential calculus, the relationship between integral and derivative, the logarithmic and exponential functions, the approximation of functions by polynomials, sequences and numerical and functional series, as well as improper integrals.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

FIS2011 MECHANICS

At the end of this course, the student will be able to analyze and apply Newton's laws and concepts of momentum and energy conservation. The student will be able to show the ability to learn and update his/her knowledge of the modeling of physical phenomena using energy concepts.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LFA2011 EXPERIMENTAL MECHANICS

At the end of this course, the student will be able to know and use experimental methods of mechanics, as well as to master monitoring and computer techniques for experimental data processing.

LME2011 MATHEMATICAL ANALYSIS II

At the end of this course, the student will be able to understand and explain the theory of differential calculus of scalar and vectorial fields, line integrals, and multiple and surface integrals.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LFA2021 HEAT, WAVES AND FLUIDS

At the end of this course, the student will be able to use the fundamentals of wave motion, thermal phenomena and basic thermodynamics laws, as well as to understand fluid behavior and thermal phenomena, solving problems in these areas and knowing how they are used.

LFA2031 EXPERIMENTAL HEAT, WAVES AND FLUIDS

At the end of this course, the student will be able to: discern the dynamic variables of wave motion, use concepts of heat and thermodynamics such as pressure, temperature and density, and handle basic concepts of fluid statics and dynamics.

LME3061 COMPUTER SIMULATION

At the end of this course, the student will be able to use mathematics and computers to solve algebraic and calculus problems, visualizing the solutions. The student will be able to design cellular automata, simulate and model economic and physics phenomena, to solve optimization problems, and to simulate complex phenomena and fractal time series.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

MAT2071 ADVANCED PROBABILITY AND STATISTICS

At the end of this course, the student will be able to apply statistical methods to infer population parameters in problems related to their field of study.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

FIS3011 ELECTROMAGNETISM

At the end of this course, the student will be able to understand electric and magnetic phenomena, analyzing everyday situations and identifying such phenomena to solve problems related to them. Also, the student will be able to transfer learned processes to mathematical language to quantify them.

LFA3011 EXPERIMENTAL ELECTROMAGNETISM

At the end of this course, the student will be able to use his/her knowledge of electromagnetism, proposing free practices to understand electric and magnetic phenomena in experimental situations, as well as to analyze experimental situations and know their applications.

LFA3021 CLASSICAL MECHANICS

At the end of this course, the student will be able to master the formulation of classic mechanics from conservation principles and laws in inertial and non-inertial systems.

LME3031 PARTIAL DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to calculate Fourier series, solve the Sturm-Liouville problem, and solve border value problems in rectangular coordinates and other coordinate systems.

MEC2011 MATERIAL SCIENCE

At the end of this course, the student will be able to fully understand the properties, structure and materials derived from different chemical compounds, from the point of view of chemistry, and analyzing the technological applications that nanostructured materials have, as well as understanding the relationship between molecular structure and properties at a microscopic level.

SIXTH SEMESTER**LFA3031 OPTICS**

At the end of this course, the student will be able to understand optical phenomena, solving problems and translating

studied processes to mathematical language in order to quantify them and know their applications.

LFA3041 EXPERIMENTAL OPTICS

At the end of this course, the student will be able to handle experimentally optical phenomena such as interference, diffraction, reflection and refraction of light waves, and to solve problems in these areas. The student will translate studied processes to mathematical language in order to quantify them and know their applications.

LFA3051 MODERN PHYSICS

At the end of this course, the student will be able to analyze 20th century physics, emphasizing the problems of classical physics that gave rise to the relativity theory and quantum mechanics. The student will be able to handle quantic phenomena and solve problems in these areas.

LFA3061 EXPERIMENTAL MODERN PHYSICS

At the end of this course, the student will be able to master an outlook of experimental background of modern physics from the analysis of classical physics to the handling of experimental methods of modern physics. The student will use computer monitoring techniques for experimental data processing.

LFA3071 MATHEMATICAL METHODS OF PHYSICS I

At the end of this course, the student will be able to use linear algebra concepts and give examples of group theory in the most common cases of modern physics, demonstrating functions of complex variable theory and using them to solve problems frequently found in theoretical and applied physics.

LNM2011 NANOMATERIALS I

At the end of this course, the student will be able to establish a nanomaterial classification based on composition and form, understanding the different synthesis methods (chemical and physical). The student will also characterize through spectroscopic and microscopic means different nanomaterials.

SEVENTH SEMESTER

LFA4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to diagnose, plan, evaluate and become part of solving problems and situations of his/her profession, establishing a link between theory and practice.

LFA4021 CLASSICAL THERMODYNAMICS

At the end of this course, the student will be able to model reversible and irreversible processes, through the use of thermodynamics potentials. The student will also be able to identify, analyze and solve creatively and critically interdisciplinary problems found in the description of reversible and irreversible processes.

LFA4031 ELECTRODYNAMICS

At the end of this course, the student will be able to analyze in critical way Maxwell's laws of thermodynamics, and show

the ability to study and learn independently the applications of laws such as these.

LFA4041 MATHEMATICAL METHODS OF PHYSICS II

At the end of this course, the student will be able to apply the properties of Bessel, Legendre, Hermite, Laguerre, Chebychev and Fourier functions in different contexts of classical and quantum physics.

LFA4051 QUANTUM MECHANICS I

At the end of this course, the student will be able to understand the fundamentals of quantum mechanics, including quantization of angular momentum, the temporal evolution of a system, and the matrix mechanics of a dimension. The student will learn to apply quantum models to simple physical models such as a harmonic oscillator.

TFA4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the knowledge acquired to delve into the subjects of classic, modern or current physics.

EIGHTH SEMESTER

LFA4061 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to diagnose, plan, evaluate and become part of solving problems and situations of his/her profession, establishing a link between theory and practice, between school and society, and between his/her aspirations and the needs of his/her environment.

LFA4071 COMPUTER PHYSICS

At the end of this course, the student will be able to use available hardware and software resources to implement computer simulations of physical processes with stochastic components.

LFA4081 QUANTUM MECHANICS II

At the end of this course, the student will be able to analyze quantum systems subject to disturbances, and use methodology in studying particle interaction in electromagnetic fields.

LFA4091 STATISTICAL MECHANICS

At the end of this course, the student will be able to handle microscopic models to describe transport of matter and energy phenomena, be it classical or quantum.

TFA4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the knowledge acquired to delve into the subjects of classic, modern or current physics.

TFA4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the knowledge acquired to delve into the subjects of classic, modern or current physics.



ACADEMIC PROGRAMS

**SCHOOL OF
ENGINEERING**

BIOMEDICAL ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LBM1011 INTRODUCTION TO BIOMEDICAL ENGINEERING

At the end of this course, the student will be able to apply the knowledge and basic concepts of biomedical engineering to solve problems of medical instrumentation.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative

and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIR1031 DIGITAL DESIGN

At the end of this course, the student will be able to identify and manage binary numerical systems to design combinational and sequential logic circuits.

LIR1041 DIGITAL DESIGN LAB

At the end of this course, the student will be able to design, simulate and integrate combinational and sequential logic circuits with digital electronic applications.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately

LQU1061 ORGANIC CHEMISTRY LAB I

At the end of this course, the student will be able to apply the knowledge acquired to assemble equipment used in organic chemistry and performing synthesis, separation, purification and identification operations. He/She will integrate his/her work the rules of personal safety, observing best practices in the laboratory as well as when handling dangerous residues

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LBM2011 ANATOMY AND PHYSIOLOGY I

At the end of this course, the student will be able to master the fundamentals of morphology and the functioning of organisms in order to detect changes and disease.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMT2011 ELECTRICAL CIRCUITS

At the end of this course, the student will be able to apply the techniques of electrical circuit analysis to design applications.

LMT2021 ELECTRICAL CIRCUIT LAB

At the end of this course, the student will be able to identify, design, synthesize and analyze electrical circuits.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

FIS2011 MECHANICS

At the end of this course, the student will be able to analyze and apply Newton's laws and concepts of momentum and energy conservation. The student will be able to show the ability to learn and update his/her knowledge of the modeling of physical phenomena using energy concepts.

LBM2021 ANATOMY AND PHYSIOLOGY II

At the end of this course, the student will be able to master the fundamentals of morphology and the functioning of organisms in order to detect changes and disease.

LMR1031 MOLECULAR AND CELLULAR BIOLOGY

At the end of this course, the student will be able to understand the molecular and cellular structure, organization, partitioning and complexity to support vital phenomena in unicellular and multicellular organisms.

LMT2041 ANALOG ELECTRONICS

At the end of this course, the student will be able to analyze and design analog electronic circuits that work as a tool in signal conditioning that allow the automation of mechatronic systems.

LMT2051 ANALOG ELECTRONICS LAB

At the end of this course, the student will be able to describe the operation, construction and evaluation of analog elec-

tronic circuits that can be used in signal conditioning that allow the automation of mechatronic systems.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LIR3011 SIGNS AND SYSTEMS

At the end of this course, the student will be able to master, model, design and build applications in communications and signal processing.

LMT3011 DIGITAL ELECTRONICS

At the end of this course, the student will be able to describe the characteristics of modern digital electronics technology, and propose their use in mechatronic systems.

LMT3021 DIGITAL ELECTRONICS LAB

At the end of this course, the student will be able to analyze, design, construct and test digital systems that can be used in the construction of mechatronic systems.

LQU2011 PHYSICOHEMISTRY I

At the end of this course, the student will be able to interpret the different energy exchange processes, through the adequate use of thermodynamic principles, calculating heat reaction and relating them correctly to standard states, applying the criteria of spontaneity and equilibrium of diverse chemical and biological systems, correctly using the concept of chemical potential to interpret physicochemical phenomena

LQU2071 BIOCHEMISTRY I

At the end of this course, the student will be able to correctly describe the structure, physicochemical characteristics, function and interaction of biomolecules, as well as the methodology used for their study.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

SIXTH SEMESTER**LBC3071 PATHOPHYSIOLOGY**

At the end of this course, the student will be able to interpret basic mechanisms of pathological processes shared by different diseases, as well as the specific mechanisms that are part of the production and clinical symptoms of such diseases.

LBM3011 BIOMECHANICS

At the end of this course, the student will be able to identify and apply principles of mechanics to model and predict the mechanic behavior of any living system.

LBM3021 BIOMEDICAL INSTRUMENTATION I

At the end of this course, the student will be able to understand and analyze the operational characteristics and function of measurement instruments in medical applications.

LBM3031 BIOMEDICAL INSTRUMENTATION LAB

At the end of this course, the student will be able to design and implement electronic circuits using sensors, operational amplifiers, and analog-digital and digital-analog converters to capture and modulate physical signs or quantities.

LIR3061 SIGNAL PROCESSING

At the end of this course, the student will be able to analyze and design systems for the analogic and digital processing of signals with applications in communication.

LIR3071 COMMUNICATION NETWORKS

At the end of this course, the student will be able to master the fundamental concepts of communication of digital data, the process of design and the operation of a global network.

LIR3111 SIGNAL PROCESSING LAB

At the end of this course, the student will be able to analyze and design systems for signal processing in the time and frequency domain with applications in communication and power systems.

SEVENTH SEMESTER**LAD4071 PROJECT AND PROGRAM MANAGEMENT**

At the end of this course, the student will be able to apply techniques and tools for project administration through a complete and coherent methodology, valid for any kind of project, including organizational, human and technical features.

LBM4011 HOSPITAL SECURITY AND INSTALLATIONS

At the end of this course, the student will be able to design, cal-

culate, assess and evaluate projects, and to direct and maintain hospital installations.

LBM4021 BIOMEDICAL INSTRUMENTATION II

At the end of this course, the student will be able to provide basic information on frequent use of electronic instruments in a hospital setting, and about the physiologic and physical principles involved in them.

LBM4031 CONTROL LAB

At the end of this course, the student will be able to use his/her knowledge to model and design analog control systems in automation applications.

LBM4041 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to practice the acquired knowledge throughout his/her studies to diagnose, evaluate, and participate in solving problems particular to his/her profession, establishing a link between theory and practice, and between school and society.

LIR4031 CONTROL SYSTEMS

At the end of this course, the student will be able to model, analyze, simulate and integrate physical control systems by applying electronic and mechatronic systems.

LMR3041 BIOETHICS AND QUALITY IN HEALTH CARE SERVICES

At the end of this course, the student will be able to analyze the ethical values and legal rules that may apply in situations related to health care, highlighting their importance in a doctor's professional practice to safeguard the dignity and rights of his/her patients, through the practice of quality and warmth in health care services.

EIGHTH SEMESTER**LBM4151 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to practice the acquired knowledge throughout his/her studies to diagnose, evaluate, and participate in solving problems particular to his/her profession, establishing a link between theory and practice, and between school and society.

LBM4161 BIOMATERIALS

At the end of this course, the student will be able to identify different kinds and properties of biomaterials used today in medical devices such as bodily implants or those that are in contact with bodily fluids.

LBM4171 BIOMEDICAL SYSTEMS LAB

At the end of this course, the student will be able to analyze, project, and design a diagnostic biomedical measurement system, and to evaluate results obtained from it using a system, circuit, process, algorithm or methodology.

LIR3091 INTELLIGENT SYSTEMS

At the end of this course, the student will be able to apply the

knowledge of diffuse logic and genetic algorithms to control system applications and computer decision devices.

LMR3161 RADIOLOGY

At the end of this course, the student will be able to master the fundamentals of radiology, analyzing the functional changes that are present during sickness and applying scientific reasoning and critical attitude to correlate pathophysiology, prevention or, if such is the case, diagnosis, treatment and adequate rehabilitation.

TBM4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

TBM4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

TBM4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

CHEMICAL ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQI1011 INTRODUCTION TO CHEMICAL ENGINEERING

At the end of this course, the student will be able to identify the different fields of concentration of chemical engineering. In this way, the student will have the adequate motivation to develop academic work. On the other hand, the student will be able to correctly find his/her way within the university to make adequate use of its services and thus assimilate his/her career.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQI1021 MATERIAL BALANCES

At the end of this course, the student will be able to develop a clear and systematic methodology to formulate and solve material balances for different processes.

LQI1031 INTRODUCTION TO DESIGN IN CHEMICAL PROCESS ENGINEERING

At the end of this course, the student will be able to identify how engineers face and solve problems, raising their awareness and interest in the types of problems that an engineer faces. The purpose of the course is to present to the students the engineering method, concentrating on six main goals: self-regulation, communication, teamwork, problem solution, modeling and quality.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQI2011 ENERGY BALANCES

At the end of this course, the student will be able to formulate and solve energy balance, identifying the different energy interactions between and system and its environment, across its borders, transference of energy as well as heat and work to achieve changes in internal energy. He/She will use information of properties using tables, thermodynamic diagrams and some predictive methods which are ideal for pressure-volume-temperature (PVT), pressure heat capacity, constant volumes (C_p, C_v), ideal properties, internal energy (U), and enthalpy (H). The student will learn and develop a clear and systematic methodology to solve energy balance in different process equipment.

LQI2021 LABORATORY OF THERMOPHYSICAL PROPERTIES

At the end of this course, the student will be able to operate lab equipment, as well as to interpret the results, relating them to the knowledge acquired in thermodynamics.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

FIS1011 PHYSICS

At the end of this course, the student will be able to handle basic concepts related to classic mechanics, electromagnetism and optics using laws of classic physics.

LQI2031 ENTROPY BALANCE

At the end of this course, the student will be able to perform a systematic analysis of thermodynamic processes using the principles of thermodynamics. The student will formulate and solve entropy and exergy balance for different interactions or transfers of energy between a system, its surroundings, and the environment.

LQI2041 ADVANCED THERMOPHYSICAL PROPERTIES LAB

At the end of this course, the student will be able to formulate and solve entropy balance, using data from thermophysical properties by use of tables, thermodynamic diagrams and some predictive methods which are ideal to generate internal energy (U), pressure-enthalpy (PH), temperature-entropy (TS) and pressure-volume (PV). The student will apply systematic methodology to analyze thermodynamic processes.

LQU2051 ANALYTICAL CHEMISTRY

At the end of this course, the student will be able to identify the principles of analytical chemistry, and apply them to the solution of chemistry, biology and health problems.

LQU2061 ANALYTICAL CHEMISTRY LAB

At the end of this course, the student will be able to manipulate the material and lab equipment utilized in analytical chemistry, learning the techniques of chemical analysis normally employed in quality control labs.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

FIFTH SEMESTER**LI12031 FINANCIAL AND ECONOMIC ENGINEERING**

At the end of this course, the student will be able to identify and use interest rate as a valuation instrument to program investments, taking into account time as an analysis factor. The student will define the different types of interest in the market and analyze their repercussions in investment, differentiating the true cost of an interest rate in investments and valuing and directing financial requirements through time.

LQI3011 SAFETY IN THE CHEMICAL PROCESS INDUSTRY

At the end of this course, the student will be able to identify the fundamental principles and application of safety and protection of the work environment in industries. He/She will be

able to identify the theoretical and legal work safety principles, the safety of processes and occupational hygiene which apply to the chemical industry, including regulations. The student will also learn the computer tools that exist to implement safety in industries.

LQI3021 MODELING AND SIMULATION IN CHEMICAL PROCESS ENGINEERING

At the end of this course, the student will be able to apply the general concepts of programming to develop a formal methodology to solve problems with computer tools, defining an algorithm and using Excel as an interactive numerical software, VBA programming language and Matlab. These tools will allow him/her to solve chemical process, food and/or environmental engineering problems.

LQI3031 FREE ENERGY BALANCES

At the end of this course, the student will be able to identify multi-component thermodynamic mixtures and their conditions for mass transfer for thermodynamic equilibrium. The student will be able to describe equilibrium in multi-component and multi-phase systems, as well as models to predict equilibrium constants in heterogenic systems. He/She will do estimates for chemical reaction systems, the effect of temperature and pressure in equilibrium constants of one or more reactions.

LQI3041 TRANSPORTATION PROCESSES I

At the end of this course, the student will be able to identify the mechanisms of momentum and heat transport processes and use them in associated transfer processes, applying them to the solution of industrial and environmental problems.

LQI3051 TRANSPORTATION PROCESSES LAB I

At the end of this course, the student will be able to identify, operate and experiment with test plant equipment related to momentum and heat transport processes, interpreting the results and evaluating their performance, relating this information to the knowledge acquired in the Transportation Processes I course.

LQI3061 PROPERTY PREDICTIONS

At the end of this course, the student will be able to describe and develop pressure-volume-temperature (PVT) equations and one and two fluid phase ideal and real thermodynamic equations of pure compounds. He/She will apply estimation and prediction methods of these properties from experimental data, equations of state and the corresponding state principle, as well as establish the rules of mixtures to predict and estimate multi-component PVT and thermodynamic mixtures.

LQI3071 PHASE EQUILIBRIUM LAB

At the end of this course, the student will be able to use lab equipment and interpret the results and relate them to the basic principles of thermodynamics. He/She will determine, by means of experiments, diverse parameters to calculate equilibrium constants for components in his/her mixtures and chemical reactions. He/She will learn to use Aspen Plus

software and numerical methods to reproduce experimental data regarding equilibrium constants for the components in his/her mixtures.

SIXTH SEMESTER

LQI3081 STATISTICAL CONTROL OF PRODUCTS AND PROCESSES

At the end of this course, the student will be able to understand and apply statistics and probability to solve chemical, food and environmental engineering problems, developing the skills to use statistical computer programs to analyze data. The student will also interpret the data and graphs with statistical estimates, inferences and regression analysis.

LQI3091 KINETICS AND HOMOGENEOUS REACTORS

At the end of this course, the student will be able to apply the laws and general principles related to chemical transformation of reactive substances in products, to design and correctly operate homogeneous chemical reactors.

LQI3101 TRANSPORTATION PROCESSES II

At the end of this course, the student will be able to apply the techniques of mass transport processes in the associated transfer processes, and apply these concepts to the solution of industrial and environmental problems.

LQI3111 UNITARY OPERATIONS OF FLUID FLOW

At the end of this course, the student will be able to identify the behavior of fluids, designing transference processes in tubes, ducts and their accessories.

LQI3121 UNITARY OPERATIONS OF FLUID TRANSFER

At the end of this course, the student will be able to apply the techniques of heat transfer processes in the associated transfer processes, and apply these concepts to the solution of industrial and environmental problems.

LQI3131 UNITARY OPERATIONS LAB

At the end of this course, the student will be able to identify and operate test plant equipment related to fluid flows, interpreting the results and evaluating their performance, relating this information to the knowledge acquired in the Unitary Operations of Fluid Flow course.

LQI3141 TRANSPORTATION PROCESSES LAB II

At the end of this course, the student will be able to identify and operate test plant equipment related to transport processes, interpreting the results and evaluating their performance, relating this information to the knowledge acquired in the Transportation Processes II course.

LQI3151 DESIGN OF CHEMICAL PRODUCTS

At the end of this course, the student will be able to creatively plan and design sustainable products, services and experiences based on the search of unmet needs met in society, creating prototypes and using lab and simulation equipment.

SEVENTH SEMESTER**LIN4021 ENVIRONMENTAL PROTECTION IN THE CHEMICAL INDUSTRY**

At the end of this course, the student will be able to identify the conceptual fundamentals and select the methods for environmental safety and protection in industries. The student will be able to describe the theoretical and legal foundations of security and environmental protection in industries, including regulations. Also, the student will use and calculate, with computer tools and models, simulations and methods to solve industrial environmental protection problems.

LQI4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply the knowledge acquired in previous courses, thus developing experimentation, documentation and reporting skills for process analysis and industry projects through professional practices or field research in his/her area of concentration.

LQI4021 UNITARY OPERATIONS OF MASS TRANSFERENCE

At the end of this course, the student will be able to dominate the basic unitary operations involved in mass transfer in fluid and equilibrium phases. He/She will describe the principles and calculate with different methods, the design of distillation, absorption, extraction, and humidification equipment.

LQI4031 PROCESS ENGINEERING

At the end of this course, the student will be able to specify the entrance and exit interfaces of a sequential modular process simulator as a tool to analyze and evaluate the topology of a chemical process flowchart in certain operational conditions. The student will balance material, energy and entropy of the process, as well as calculate the thermodynamic properties, phase equilibrium, heat transfer parameters, and work of each process.

LQI4041 PROCESS ENGINEERING LAB

At the end of this course, the student will be able to apply sequential modular simulators to carry out chemical process simulations, analyzing the process flowchart and specifying the conditions of its operation.

LQI4051 CATALYSIS AND HETEROGENEOUS REACTORS

At the end of this course, the student will be able to combine the ideal reactor models in a phase that includes catalysts, understanding the mathematical models that describe the operation of heterogeneous reactions. The student will also be able to calculate these reactors.

TQI4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the knowledge given on selected chemical engineering subjects, with the ability to tackle specific problems in their area of concentration and to provide innovative technical solutions.

EIGHTH SEMESTER**LQI4061 PROFESSIONAL PRACTICE II**

At the end of this course, the student will be able to apply the knowledge acquired in previous courses, thus developing experimentation, documentation and reporting skills for process analysis and industrial projects through professional practices or field research in his/her area of concentration.

LQI4071 ADVANCED UNITARY OPERATIONS OF MASS TRANSFER

At the end of this course, the student will master the fundamentals of unitary operations that involve mass transference in presence of a solid phase or barrier. He/She will be able to identify the basics and design with different types of methods: drying, crystallization, adsorption, ionic exchange and membrane separation equipment.

LQI4081 ADVANCED UNITARY OPERATIONS OF MASS TRANSFER LAB

At the end of this course, the student will be able to select and use test plant equipment related to the operation of mass transfer and interpret the results to evaluate the equipment's performance, applying the knowledge acquired in the Advanced Unitary Operations of Mass Transference Course.

LQI4091 CHEMICAL PLANT DESIGN

At the end of this course, the student will be able to apply the necessary knowledge for the design of a process of chemical industrial installation, where the materials are treated for transformation into useful products. In each specific case, the student will be able to analyze and specify the most important steps of the design process, in its preliminary considerations and the detailed engineering calculations. He/She will be able to analyze real data and industrial process plans, and will elaborate, step by step, the calculations and diagrams necessary to finish a project. The student will establish the bases for this design, develop basic engineering and calculate the equipment necessary for a chemical plant, drawing up the corresponding specification sheets.

LQI4101 DYNAMICS AND PROCESSES LAB

At the end of this course, the student will be able to apply different methods of synthesis and evaluation of chemical processes; he/she will be able to analyze the dynamic behavior of different unitary operations in a chemical plant, and to define the processes by using computer programs for process simulation.

TQI4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the knowledge given on selected chemical engineering subjects, with the ability to tackle specific problems in their area of concentration and to provide innovative technical solutions.

TQ14031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the knowledge given on selected chemical engineering subjects, with the ability to tackle specific problems in their area of concentration and to provide innovative technical solutions.

CIVIL ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LAR2011 BUILDING MATERIALS

At the end of this course, the student will be able to: identify building materials, identify various alternatives to use at different construction stages, and establish selection criteria for suitable materials and building elements.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIC1011 CONSTRUCTION MATERIALS LAB

At the end of this course, the student will be able to identify and differentiate the main mechanical properties of the most important materials in construction, establishing a link between the materials and their relevance in construction and quality control.

LIC1021 DRAWING APPLIED TO CIVIL ENGINEERING

At the end of this course, the student will be able to master different computer drawing commands, as well as the concepts of scale, layers, dimensionality and methodological and technological aspects that allow him/her to identify and solve problems of civil engineering using computers.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey

and understand familiar and new information orally and in writing.

LIC1031 TOPOGRAPHY

At the end of this course, the student will be able to apply the different methods of horizontal and vertical distance measurements to carry out topographic surveys. The student will use topographical survey methods to carry out his/her profession in an ethical manner, to foster social development and protect the environment.

LIC1041 TOPOGRAPHY LAB

At the end of this course, the student will be able to carry out basic planimetric and altimetric surveys, using methods and technological resources. The student will work in a team to develop solutions to basic topography problems.

LIC1051 CONSTRUCTION PROCEDURES

At the end of this course, the student will be able to know the processes and procedures used in construction, identifying the different construction stages, and selecting the most adequate methods and elements for construction, according to a chronological and procedural logic.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAR3031 BASIC INSTALLATIONS

At the end of this course, the student will be able to establish the importance of electrical, water, sewage and gas installations as service networks that make an architectural project work. He/She can identify features and constraints of each type of installation and master the calculation methods, and the most adequate ways to integrate installations in a project.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIC2011 INTRODUCTION TO STRUCTURAL ENGINEERING

At the end of this course, the student will be able to identify the different force systems that act on particles and solid bodies to analyze their conditions of equilibrium, as well as the attachment connection devices to other structural elements.

LIC2021 GEOMETRIC DESIGN OF ROADS

At the end of this course, the student will learn the process of planning and designing a road with regards to the regulations and specifications. The student will identify the elements that make up the geometric design of an open road, and will be able to project different works and studies in the design of a roadway.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LIC2031 ISOSTATIC STRUCTURES

At the end of this course, the student will be able to identify the different structural elements and their internal and external links with regards to their structural composition. The student will also learn to classify structural systems according to their space idealization.

LIC2041 BEHAVIOR OF MATERIALS I

At the end of this course, the student will be able to apply the bases of quantitative and qualitative analysis of deformable solids to determine their behavior, resistance, rigidity and stability to different requirements or combination of requirements, such as pure axial load, shear force and bending.

LIC2051 SOIL MECHANICS I

At the end of this course, the student will be able to identify and classify different types of soils, differentiating their hydraulic, plastic and granulometric properties, which will allow him/her to determine the behavior of soil in different effort and hydraulic flow conditions.

LIC2061 SOIL MECHANICS LAB

At the end of this course, the student will be able to perform lab tests to characterize the different types of soils, as well as to determine the mechanical properties of interest to a civil engineer.

LIC2071 EARTHMOVING

At the end of this course, the student will be able to identify,

analyze and organize the machinery and heavy equipment used in earthmoving in Civil Engineering works. The student will learn their applications in construction processes to finish a civil engineering work in a given timeframe and cost.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LAR4021 CONSTRUCTION COSTS

At the end of this course, the student will be able to use cost project methodology in architecture, and to master different elements of this process, identifying the main manual and automated systems to elaborate a budget.

LIC3011 BEHAVIOR OF MATERIALS II

At the end of this course, the student will be able to apply the bases of qualitative and quantitative analysis in distortion of solids to determine their behavior, resistance, rigidity and stability in different requirements and/or combination of requirements such as torque, axial load and flexion, axial load and torsion. The student will determine the general states of efforts and distortions.

LIC3021 GENERAL HYDRAULICS

At the end of this course, the student will be able to use the basic concepts of fluid properties in general, and water properties in particular. The student will also be able to solve problems related to hydrostatics, and flow in pipes and open channels.

LIC3031 GENERAL HYDRAULICS LAB

At the end of this course, the student will be able to identify and apply the experimental methodology as support for the analysis and solution of hydraulic problems.

LIC3041 SOIL MECHANICS II

At the end of this course, the student will identify and apply the concept of soil consolidation to determine possible settlements. The student will apply the concept of shear stress to characterize the behavior of soil mass in thrust, slopes and compaction.

LIM3051 SOLID MECHANICS LAB

At the end of this course, the student will be able to visualize the properties that structural elements have with relation to their behavior, resistance, rigidity and stability when subjected to different loads.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

SIXTH SEMESTER

LAR4091 CONSTRUCTION PLANNING AND CONTROL

At the end of this course, the student will be able to master various planning and control tools for construction and to identify a planning process as a fundamental part of architectural construction. The student will also be able to understand it in terms of cost and time, as a valuable element in decision making.

LIC3051 DRINKING WATER AND SEWER SYSTEMS

At the end of this course, the student will be able to identify, analyze and design the components of drinking water, sewer, and storm sewer systems.

LIC3061 MATRIX ANALYSIS OF STRUCTURES

At the end of this course, the student will be able to apply the matrix method of rigidity (displacement method) to the analysis of flat lattices. The student will analyze flat, asymmetric and symmetric lattices, such as armors, beams and frames.

LIC3071 ROAD SURFACE DESIGN AND CONSERVATION

At the end of this course, the student will be able to identify the characteristics of the materials used in paving and will apply the general concepts of pavement design, in order to design, through different methodologies, flexible and rigid pavements.

LIC3081 ROAD SURFACE LAB

At the end of this course, the student will be able to identify and use the testing methods to characterize the physical properties of asphalt and earth materials used in the construction of roads and dirt tracks.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to under-

stand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

SEVENTH SEMESTER

LIC4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to use the knowledge acquired during his/her studies to diagnose, plan, evaluate and take part in the solution of problems and situations inherent to his/her profession. The student will establish a link between theory and practice, between the University and society, and between aspirations and needs of his/her environment.

LIC4021 DRINKING WATER AND WASTEWATER TREATMENT

At the end of this course, the student will be able to identify the requirements of treating drinking water and city wastewater. The student will support the design of traditional treatment trains that allow a certain use of each.

LIC4031 WATER QUALITY LAB

At the end of this course, the student will be able to use Water Quality lab equipment to evaluate physical, chemical and biological characteristics of drinking water and wastewater through standard testing. The student will identify the unitary processes and operations used for the conventional and advanced treatment of drinking water and wastewater.

LIC4041 HYDROLOGY

At the end of this course, the student will be able to solve problems related to rainfall, infiltration and evapotranspiration and will apply the necessary concepts and techniques to solve problems related to the flow of subterranean water, road transit through vessels and waterways, and to obtain design storms and avenues.

LIC4051 STEEL DESIGN

At the end of this course, the student will be able to identify and apply the theoretical and experimentation criteria on which the methods of stress design for ultimate resistance on structural steel elements are based. The student will interpret the regulations of structural steel designs according to the Building Regulation of Mexico City (Reglamento de Construcciones del Distrito Federal), as well as the specifications of the American Institute of Steel Construction.

LIC4061 REINFORCED CONCRETE DESIGN

At the end of this course, the student will be able to identify the behavior, mode and failure mechanisms of elements of reinforced concrete in its most common uses. The student will apply the theoretical-experimentation criteria on which the ultimate strength method is based to size the structural elements of reinforced concrete.

TIC4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

EIGHTH SEMESTER**LIC4071 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to use the knowledge acquired during his/her studies to diagnose, plan, evaluate and take part in the solution of problems and situations inherent to his/her profession. The student will establish a link between theory and practice, and between the university and society.

LIC4081 ANALYSIS AND DESIGN OF HYDRAULIC INSTALLATIONS

At the end of this course, the student will be able to solve problems related to hydraulic design of storage dams, sewers and bridges. The student will also solve problems related to the analysis and selection of pumps and turbines.

LIC4091 COMPUTER STRUCTURAL ANALYSIS AND DESIGN

At the end of this course, the student will be able to use a specialized computer program to analyze and design structures, solving certain practical examples to analyze and design gravitational and accidental loads on concrete and steel structures.

LIC4101 FOUNDATIONS

At the end of this course, the student will be able to understand the solutions to different foundation problems by selecting and geotechnically sizing superficial, structural or containment foundations which meet the requirements of service and stability through the analysis of loads and settlement.

TIC4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

TIC4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

COMPUTER SYSTEMS ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

LIS1021 INTRODUCTION TO COMPUTER SYSTEMS

At the end of this course, the student will be able to identify and relate the basic concepts in the areas of computer systems and information technology in the environment in which they are used, and their key components.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIS1031 OBJECT-ORIENTED PROGRAMMING

At the end of this course, the student will be able to design and program with an object oriented paradigm. The student will also know and apply the design techniques, UML (Unified Modeling Language) notation and Java or C# programming languages.

LIS1041 COMPUTER ARCHITECTURE

At the end of this course, the student will be able to identify and evaluate computer architecture and implement the design techniques for central processing units.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIS2011 DISCRETE MATHEMATICS

At the end of this course, the student will be able to identify the main elements of discrete mathematical methods to analyze and design algorithms.

LIS2021 DATA STRUCTURE

At the end of this course, the student will be able to specify and develop programs to use the main data structures: arrangements, stacks, queues, linked data structures, balanced binary trees and order structures.

LIS2031 COMPUTER NETWORKS

At the end of this course, the student will be able to master the design and use of wired and wireless networks, network operating systems, protocols and security in networks.

LIS2041 COMPUTER NETWORK LAB

At the end of this course, the student will be able to operate, configure, and give maintenance to different equipment, software and accessories that are part of a computer network infrastructure.

LIS2051 LANGUAGES AND PARADIGMS OF PROGRAMMING

At the end of this course, the student will be able to identify and apply the languages and paradigms of existing programming, selecting the most appropriate for the diverse problems that are present.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

INF2011 TECHNOLOGICAL INNOVATION

At the end of this course, the student will be able to identify and apply basic concepts and methods for the development of technological innovations, especially through work in multi-disciplinary teams.

LIS2061 STORING TECHNOLOGY

At the end of this course, the student will be able to, identify in an integral manner and know the fundamental problems of storing and recovering information in secondary memories.

LIS2071 OPERATING SYSTEMS

At the end of this course, the student will be able to describe the structure and organization of operating systems in general, understanding the concepts of design and implementation.

LIS2081 HUMAN-COMPUTER INTERACTION

At the end of this course, the student will be able to identify and apply the basic concepts of Human-Computer Interaction (HCI), a multidisciplinary field that studies the human and technological aspects that impact interactive system design.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

FIFTH SEMESTER**EDSO011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design

and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LI13091 LEAN SYSTEMS

At the end of this course, the student will be able to describe lean principles, as well as the opportunities to apply lean systems, principles and tools, as well as quality tools in different organizations.

LIS3011 SOFTWARE ENGINEERING

At the end of this course, the student will be able to identify and master the available techniques of software engineering for the analysis, design, implementation, testing and installation of software.

LIS3021 GRAPHING AND ANIMATION

At the end of this course, the student will be able to apply the techniques of graphing, animation in two or three dimensions, using a high level language.

LIS3031 DATABASES

At the end of this course, the student will be able to model and develop database management systems for information management.

LIS3041 COMPUTER THEORY

At the end of this course, the student will be able to model automaton, languages, computer grammar, and recursive algorithms.

SIXTH SEMESTER**LI12041 OPTIMIZATION METHODS AND MODELS**

At the end of this course, the student will be able to understand mathematical programming models to solve practical application problems in engineering related to the optimization of resources or to the solution of combinatorial problems. The student will formulate linear, non-linear, quadratic, integer combinatorial and restriction programming problems related to practical engineering applications.

LIS3051 ARTIFICIAL INTELLIGENCE

At the end of this course, the student will be able to apply artificial intelligence search techniques to find solutions to complex problems in distributed environments and in the web.

LIS3061 DISTRIBUTED SYSTEMS

At the end of this course, the student will be able to apply and evaluate the relevance of techniques and tools for the construction of distributed systems.

LIS3071 DATABASE MANAGEMENT

At the end of this course, the student will be able to master the technologies of database management technologies, such as semantics, object oriented and relation-extended and semi-structured data models.

LIS3081 MULTIMEDIA PROCESSING

At the end of this course, the student will be able to apply and evaluate the importance of techniques and tools for multimedia data manipulation in areas such as medicine, biology, robotics, public security, human-computer interaction and long-distance education.

LIS3091 SOFTWARE DESIGN PATTERNS

At the end of this course, the student will be able to identify the appropriate design patterns to apply to the solution of specific problems.

LIS3101 DATABASE MANAGEMENT LAB

At the end of this course, the student will be able to apply his/her knowledge to choose, install and manage databases.

SEVENTH SEMESTER**LAD4071 PROJECT AND PROGRAM MANAGEMENT**

At the end of this course, the student will be able to apply techniques and tools for project administration through a complete and coherent methodology, valid for any kind of project, including organizational, human and technical features.

LIS4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to use the knowledge acquired during his/her studies to diagnose, plan, evaluate and take part in the solution of problems and situations inherent to his/her profession. The student will establish a link between theory and practice, between the University and society, and between aspirations and needs of his/her environment.

LIS4021 APPLICATIONS IN DISTRIBUTED ENVIRONMENTS

At the end of this course, the student will be able to design, implement and release a computer system that works on the web.

LIS4031 INFORMATION RETRIEVAL AND WEB SEARCHES

At the end of this course, the student will be able to identify and explain the main solutions to problems associated to the exploitation of large data collections, especially semi-structured and non-structured collections found on the web.

LIS4041 TELECOMMUNICATION SYSTEMS

At the end of this course, the student will be able to master the design and use of wireless networks, cellular phones, wireless network protocols, mobiles, and multi-media network support on the Internet.

TIS4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

EIGHTH SEMESTER**LIS4051 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to use the knowledge acquired during his/her studies to diagnose, plan, evaluate and take part in the solution of problems and situations inherent to his/her profession. The student will establish a link between theory and practice, and between the university and society.

LIS4061 INFORMATION SECURITY

At the end of this course, the student will be able to master the principles and practical concepts of cryptography and security in a communications network.

LIS4071 MOBILE APPLICATIONS

At the end of this course, the student will be able to determine and design the necessary architecture for an application for mobile phones, as well as programming and testing applications for different models of mobile phones.

LIS4081 NETWORK AND SERVER MANAGEMENT

At the end of this course, the student will be able to apply his/her knowledge to install, manage, back up and recover servers.

LIS4091 NETWORK AND SERVER LAB

At the end of this course, the student will be able to install, configure and manage servers.

TIS4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

TIS4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

ELECTRONICS ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIR1011 INTRODUCTION TO ELECTRONIC ENGINEERING

At the end of this course, the student will be able to master the principles of analysis and design of basic digital circuits and analog resistive circuits.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIR1021 CIRCUIT THEORY

At the end of this course, the student will be able to apply, model, simulate and verify electronic circuits with the help of a specialized computer tool.

LIR1031 DIGITAL DESIGN

At the end of this course, the student will be able to identify and manage binary numerical systems to design combinational and sequential logic circuits.

LIR1041 DIGITAL DESIGN LAB

At the end of this course, the student will be able to design, simulate and integrate combinational and sequential logic circuits with digital electronic applications.

LIS1031 OBJECT-ORIENTED PROGRAMMING

At the end of this course, the student will be able to design and program with an object oriented paradigm. The student will also know and apply the design techniques, UML (Unified Modeling Language) notation and Java or C# programming languages.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

FIS2011 MECHANICS

At the end of this course, the student will be able to analyze and apply Newton's laws and concepts of momentum and energy conservation. The student will be able to show the ability to learn and update his/her knowledge of the modeling of physical phenomena using energy concepts.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIR2011 ELECTRONIC CIRCUITS

At the end of this course, the student will be able to master the analysis and design of amplifier circuits of different configurations and technologies for voltage regulation, rectification and switching applications.

LIR2021 ELECTRONIC CIRCUITS LAB

At the end of this course, the student will be able to design,

analyze and integrate amplifier circuits of different configurations and technologies for voltage regulation, rectification and switching applications

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

FIS3011 ELECTROMAGNETISM

At the end of this course, the student will be able to understand electric and magnetic phenomena, analyzing everyday situations and identifying such phenomena to solve problems related to them. Also, the student will be able to transfer learned processes to mathematical language to quantify them.

LIR2031 ANALOG DESIGN

At the end of this course, the student will be able to analyze and design signal amplifiers of one or more stages using different types of transistors and configurations.

LIR2041 ANALOG DESIGN LAB

At the end of this course, the student will be able to build, simulate and evaluate the behavior of discrete and integrated analog electronic circuits, stressing the use of lab instruments and the appropriate computer tools.

LIR2051 MICROCONTROLLERS AND MICROPROCESSORS

At the end of this course, the student will be able to apply the architecture of microprocessors and microcontrollers to design digital systems in instrumentation, automation and processing applications.

LIR2061 MICROCONTROLLER LAB

At the end of this course, the student will be able to optimize the efficiency of digital systems, based on the use of computer tools, through the optimization in the generation of programs in assembler and high level languages.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

MAT2091 VECTOR CALCULUS

At the end of this course, the student will be able to present, solve and interpret problems that include the concepts of trajectory, speed vectors, acceleration, tangents, normal and binormal. The student will use and interpret the concepts of divergent and rotational gradients, as well as their interactions. Also, presenting, solving and interpreting problems that include linear and area integrals, as well as interpreting the Green, Stokes and Gauss divergence theorems, and calculating the gradient, divergence and rotation in rectangular, cylindrical and spherical coordinate systems.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LIR3011 SIGNS AND SYSTEMS

At the end of this course, the student will be able to master, model, design and build applications in communications and signal processing.

LIR3021 INSTRUMENTATION AND MEASUREMENT

At the end of this course, the student will be able to differentiate and apply the basic concepts of physical variable measurement for industrial applications.

LIR3031 INSTRUMENTATION AND MEASUREMENT LAB

At the end of this course, the student will be able to design, analyze and integrate circuits to carry out measurements in industrial applications.

LIR3041 RECONFIGURABLE SYSTEMS

At the end of this course, the student will be able to analyze, design and implement processors with reconfigurable logic by using VHDL (Very High Speed Integrated Circuits Hardware Description Language).

LIS3031 DATABASES

At the end of this course, the student will be able to model and develop database management systems for information management.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

SIXTH SEMESTER

INF2011 TECHNOLOGICAL INNOVATION

At the end of this course, the student will be able to identify and apply basic concepts and methods for the development of technological innovations, especially through work in multi-disciplinary teams.

LIR3051 DIGITAL COMMUNICATION

At the end of this course, the student will be able to analyze and design communication systems for data compression, detection, error rectification, cryptography and noise signal detection.

LIR3061 SIGNAL PROCESSING

At the end of this course, the student will be able to analyze and design systems for the analogic and digital processing of signals with applications in communication.

LIR3071 COMMUNICATION NETWORKS

At the end of this course, the student will be able to master the fundamental concepts of communication of digital data, the process of design and the operation of a global network.

LIR3081 RENEWABLE ENERGIES

At the end of this course, the student will be able to apply knowledge for the design and integration of systems to produce alternative energy.

LIR3091 INTELLIGENT SYSTEMS

At the end of this course, the student will be able to apply the knowledge of diffuse logic and genetic algorithms to control system applications and computer decision devices.

LIR3101 COMMUNICATION NETWORKS LAB

At the end of this course, the student will be able to analyze, apply and integrate a communication network, using the protocols of communication for wired and wireless communications.

LIR3111 SIGNAL PROCESSING LAB

At the end of this course, the student will be able to analyze and design systems for signal processing in the time and frequency domain with applications in communication and power systems.

SEVENTH SEMESTER

LAD4071 PROJECT AND PROGRAM MANAGEMENT

At the end of this course, the student will be able to apply techniques and tools for project administration through a complete and coherent methodology, valid for any kind of project, including organizational, human and technical features.

LIR4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to use the knowledge acquired during his/her studies to diagnose, plan, evaluate and take part in the solution of problems and situations inherent to his/her profession. The student will establish a link between theory and practice, between the University and society, and between aspirations and needs of his/her environment.

LIR4021 AUTOMOTIVE NETWORKS

At the end of this course, the student will be able to analyze, manage and understand the working of a data network applied to automotive distribution systems.

LIR4031 CONTROL SYSTEMS

At the end of this course, the student will be able to model, analyze, simulate and integrate physical control systems by applying electronic and mechatronic systems.

LIR4041 ELECTRICAL MACHINES

At the end of this course, the student will be able to select, operate and give maintenance to electric machines such as transformers, motors, and generators for different applications.

LIR4051 ELECTRONIC SYSTEMS LAB

At the end of this course, the student will be able to manage, use and apply components, equipment and electronic engineering software for automation and control applications.

EIGHTH SEMESTER

LIR4061 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to use the knowledge acquired during his/her studies to diagnose, plan, evaluate and take part in the solution of problems and situations inherent to his/her profession. The student will establish a link between theory and practice, and between the university and society.

LIR4071 INDUSTRIAL AUTOMATION

At the end of this course, the student will be able to design, analyze, identify and integrate practical solutions to manage automation systems.

LIR4081 POWER ELECTRONICS

At the end of this course, the student will be able to design, build and test power electronic systems in different automation, domotics and robotics applications.

LMT4031 AUTOMATION LAB

At the end of this course, the student will be able to design, analyze and implement applications that use programmable logic controllers (PLCs) and oleo-pneumatic elements in industrial automation.

TIR4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

TIR4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

TIR4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application subjects.

ENERGY ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEXO111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIY1011 INTRODUCTION TO ENERGY ENGINEERING

Compare the different types of energy that have existed throughout history by reviewing, studying and analyzing them to identify their characteristics, advantages and disadvantages.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

FIS1011 PHYSICS

At the end of this course, the student will be able to handle basic concepts related to classic mechanics, electromagnetism and optics using laws of classic physics.

LEXO121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQI1021 MATERIAL BALANCES

At the end of this course, the student will be able to develop a clear and systematic methodology to formulate and solve material balances for different processes.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEXO131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

LQI2011 ENERGY BALANCES

At the end of this course, the student will be able to formulate and solve energy balance, identifying the different energy interactions between and system and its environment, across its borders, transference of energy as well as heat and work to achieve changes in internal energy. He/She will use information of properties using tables, thermodynamic diagrams and some predictive methods which are ideal for pressure-volume-temperature (PVT), pressure heat capacity, constant volumes (C_p, C_v), ideal properties, internal energy (U), and enthalpy (H). The student will learn and develop a clear

and systematic methodology to solve energy balance in different process equipment.

LQI2021 LABORATORY OF THERMOPHYSICAL PROPERTIES

At the end of this course, the student will be able to operate lab equipment, as well as to interpret the results, relating them to the knowledge acquired in thermodynamics.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LII2031 FINANCIAL AND ECONOMIC ENGINEERING

At the end of this course, the student will be able to identify and use interest rate as a valuation instrument to program investments, taking into account time as an analysis factor. The student will define the different types of interest in the market and analyze their repercussions in investment, differentiating the true cost of an interest rate in investments and valuing and directing financial requirements through time.

LIY2011 ELECTRICAL CIRCUITS I

Understand the basic elements that make up a circuit, analyzing and decoding each of their parts to design electrical circuits that include resistors, capacitors, inductors, dependent and independent sources and sinusoid signals in steady-state.

LIY2021 ELECTRICAL CIRCUITS LAB I

Understand the basic elements that make up a circuit, analyzing and decoding each of their parts to design electrical circuits that include resistors, capacitors, inductors, dependent and independent sources and sinusoid signals in steady-state.

LIY2031 INTEGRATED ELECTRONICS

Describe the function and propose elements considering electronic systems that support storage, distribution, con-

trol and energy management activities. Use simulation tools to achieve higher efficiency and lower production costs in energy sources.

LIY2041 THERMAL MACHINES AND TURBINES

Evaluate the different types of heat engines and turbines, using thermodynamics as a basic technique to analyze their energy and calculate their efficiency, thus distinguishing basic and complex thermodynamic cycles used in energy creation.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

FIFTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LIY3011 SAFETY IN PROCESSES AND ENVIRONMENTAL PROTECTION

Understand the energy industry's safety guidelines and environmental protection, analyzing current regulations by reviewing government models and existing systems, to apply them in the design of energy creation processes.

LIY3021 ELECTRICAL CIRCUITS II

Apply the Laplace transform to analyze circuits and their cascade connections, using two network parameters to solve problems derived from their design.

LIY3031 ELECTRICAL CIRCUITS LAB II

Design alternating current, single-phase and three-phase electrical circuits through simulation of interconnecting different elements of an electrical circuit (resistors, capacitors, inductors, power sources and transmission lines) to build more complex current circuits.

LIY3041 INSTRUMENTATION AND CONTROL

Interpret the characteristics of an electronic instrumentation system by describing the control alternatives that have been developed in current energy systems to improve their efficiency.

LQI3031 FREE ENERGY BALANCES

At the end of this course, the student will be able to identify multi-component thermodynamic mixtures and their condi-

tions for mass transfer for thermodynamic equilibrium. The student will be able to describe equilibrium in multi-component and multi-phase systems, as well as models to predict equilibrium constants in heterogenic systems. He/She will do estimates for chemical reaction systems, the effect of temperature and pressure in equilibrium constants of one or more reactions.

LQI3041 TRANSPORTATION PROCESSES I

At the end of this course, the student will be able to identify the mechanisms of momentum and heat transport processes and use them in associated transfer processes, applying them to the solution of industrial and environmental problems.

LQI3051 TRANSPORTATION PROCESSES LAB I

At the end of this course, the student will be able to identify, operate and experiment with test plant equipment related to momentum and heat transport processes, interpreting the results and evaluating their performance, relating this information to the knowledge acquired in the Transportation Processes I course.

SIXTH SEMESTER

LIR4041 ELECTRICAL MACHINES

At the end of this course, the student will be able to select, operate and give maintenance to electric machines such as transformers, motors, and generators for different applications.

LIY3051 FLOW AND HEAT UNIT OPERATIONS

Understand the equipment used to transport fluids and heat in currents, through the analysis of different industrial processes that increase efficiency in the distribution of energy sources.

LIY3061 GEOTHERMAL, HYDRAULIC AND NUCLEAR ENERGY

Design energy production systems through the use of geothermal, hydraulic or nuclear power to implement new energy creation methods.

LIY3071 WIND AND SOLAR ENERGY

Propose solar and wind production designs by applying different energy propagation methods to adequately use renewable resources, reducing costs in their creation, distribution, storage and quality.

LQI3101 TRANSPORTATION PROCESSES II

At the end of this course, the student will be able to apply the techniques of mass transport processes in the associated transfer processes, and apply these concepts to the solution of industrial and environmental problems.

LQI3131 UNITARY OPERATIONS LAB

At the end of this course, the student will be able to identify and operate test plant equipment related to fluid flows, interpreting the results and evaluating their performance, relating this information to the knowledge acquired in the Unitary Operations of Fluid Flow course.

LQI3141 TRANSPORTATION PROCESSES LAB II

At the end of this course, the student will be able to identify and operate test plant equipment related to transport processes, interpreting the results and evaluating their performance, relating this information to the knowledge acquired in the Transportation Processes II course.

SEVENTH SEMESTER

LIY4011 PROFESSIONAL PRACTICES I

Put into practice the knowledge acquired during the study program to diagnose, plan, evaluate and propose a solution to a problem related to energy engineering, establishing a link between theory and practice, between university and society and between the student's aspirations and the needs of the environment.

LIY4021 PETROCHEMICAL PROCESS ENGINEERING

Use modern strategies through process simulators to quickly and reliably calculate the synthesis and evaluation parameters of different petrochemical processes used in the industry, thus economizing and maximizing resources.

LIY4031 BIOENERGIES

Construct calculation models by operating biofuel production processes to propose conditions that are economically feasible and sustainable for communities.

LIY4041 SELECTED TOPICS I

Research specific Energy Engineering topics, analyzing regulations in Mexico and the world to answer the energy requirements of the public and private sectors.

LIY4051 PETROCHEMICAL PROCESS ENGINEERING LAB

Use process simulators, analyzing their thermophysical properties and evaluating the petrochemical processes by comparing flow diagrams and operation conditions, to maximize energy efficiency.

LIY4061 PETROLEUM CHEMISTRY AND CATALYTIC REACTORS

Understand the operation of catalytic reactors by building different models, identifying petroleum fractions, metals, heteroatoms, and asphaltene to improve the creation and innovation of products and their derivatives

LQI4021 UNITARY OPERATIONS OF MASS TRANSFERENCE

At the end of this course, the student will be able to dominate the basic unitary operations involved in mass transfer in fluid and equilibrium phases. He/She will describe the principles and calculate with different methods, the design of distillation, absorption, extraction, and humidification equipment.

EIGHTH SEMESTER

LIY4071 PROFESSIONAL PRACTICES II

Put into practice the knowledge acquired during the study program to diagnose, plan, evaluate and propose a solution to a problem related to energy engineering, establishing a link between theory and practice, between university and society and between the student's aspirations and the needs of the environment.

LIY4081 OIL REFINING

Understand the processes involved in refining petroleum by identifying and analyzing their characteristics to design quality, sustainable, and safe final products that consider environmental protection.

LIY4091 PROCESSING FOSSIL ENERGIES

Analyze unit operations that make up fossil fuel processing through practical exercises, to identify improvements that can be implemented or to solve problems related to their operation.

LIY4101 ANALYSIS AND MANAGEMENT OF ENERGY PROJECTS

Design an energy management project to reduce its use, increasing an electrical system's reliability, improving the use of equipment, predicting the system's performance and optimizing the use of energy by applying ISO 50001:2011, which provides a standardized regulation framework for best practices in energy management.

LIY4111 SELECTED TOPICS II

Evaluate the characteristics of oilfields and the mechanical properties of rocks to develop and apply methodologies for their exploitation. Research specialized energy topics.

LIY4121 SELECTED TOPICS III

Use energy management to develop strategies and propose solutions to specific lighting, heating, ventilation and air conditioning cases, to delve deeper into current electric network design topics.

ENVIRONMENTAL ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIN1011 INTRODUCTION TO ENVIRONMENTAL ENGINEERING

At the end of this course, the student will be able to list the different fields of application in environmental engineering. This way, the student will have the adequate motivation to develop academic work. On the other hand, the student will be able to correctly find his/her way within the university to make adequate use of its services and thus assimilate his/her career.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

LQU1021 GENERAL CHEMISTRY LAB

At the end of this course, the student will be able to demonstrate the necessary skills to manipulate glass material and some instruments of basic use in the laboratory. He/She will be able to determine physical properties, performing calculations for the preparation of solutions, applying separation methodologies while observing best practices in the lab

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQI1021 MATERIAL BALANCES

At the end of this course, the student will be able to develop a clear and systematic methodology to formulate and solve material balances for different processes.

LQI1031 INTRODUCTION TO DESIGN IN CHEMICAL PROCESS ENGINEERING

At the end of this course, the student will be able to identify how engineers face and solve problems, raising their awareness and interest in the types of problems that an engineer faces. The purpose of the course is to present to the students the engineering method, concentrating on six main goals: self-regulation, communication, teamwork, problem solution, modeling and quality.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQI2011 ENERGY BALANCES

At the end of this course, the student will be able to formulate and solve energy balance, identifying the different energy interactions between and system and its environment, across its borders, transference of energy as well as heat and work to achieve changes in internal energy. He/She will use information of properties using tables, thermodynamic diagrams and some predictive methods which are ideal for pressure-volume-temperature (PVT), pressure heat capacity, constant volumes (C_p, C_v), ideal properties, internal energy (U), and enthalpy (H). The student will learn and develop a clear and systematic methodology to solve energy balance in different process equipment.

LQI2021 LABORATORY OF THERMOPHYSICAL PROPERTIES

At the end of this course, the student will be able to operate lab equipment, as well as to interpret the results, relating them to the knowledge acquired in thermodynamics.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

FIS1011 PHYSICS

At the end of this course, the student will be able to handle basic concepts related to classic mechanics, electromagnetism and optics using laws of classic physics.

LQI2031 ENTROPY BALANCE

At the end of this course, the student will be able to perform a systematic analysis of thermodynamic processes using the principles of thermodynamics. The student will formulate and solve entropy and exergy balance for different interactions or transfers of energy between a system, its surroundings, and the environment.

LQI2041 ADVANCED THERMOPHYSICAL PROPERTIES LAB

At the end of this course, the student will be able to formulate and solve entropy balance, using data from thermophysical properties by use of tables, thermodynamic diagrams and some predictive methods which are ideal to generate internal energy (U), pressure-enthalpy (PH), temperature-entropy (TS) and pressure-volume (PV). The student will apply systematic methodology to analyze thermodynamic processes.

LQU2051 ANALYTICAL CHEMISTRY

At the end of this course, the student will be able to identify the principles of analytical chemistry, and apply them to the solution of chemistry, biology and health problems.

LQU2061 ANALYTICAL CHEMISTRY LAB

At the end of this course, the student will be able to manipulate the material and lab equipment utilized in analytical chemistry, learning the techniques of chemical analysis normally employed in quality control labs.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

FIFTH SEMESTER**LBI2081 MICROBIOLOGY**

At the end of this course, the student will be able to correctly explain the structure, metabolism, and growth conditions of microorganisms, as well as to describe the techniques to culture and quantify them, and to select adequate methods for their control.

LBI2091 MICROBIOLOGY LAB

At the end of this course, the student will be able to work in sterile conditions and to develop needed lab abilities to handle, grow and preserve microbiological specimens.

LII2031 FINANCIAL AND ECONOMIC ENGINEERING

At the end of this course, the student will be able to identify

and use interest rate as a valuation instrument to program investments, taking into account time as an analysis factor. The student will define the different types of interest in the market and analyze their repercussions in investment, differentiating the true cost of an interest rate in investments and valuing and directing financial requirements through time.

LIN3011 ENERGY RESOURCES

At the end of this course, the student will be able to know alternative biomass, solar, nuclear, hydropower, wind, and geothermal energy sources. The student will be able to identify and propose technological developments of alternative energy sources for industrial, commercial and domestic uses, calculating the impact of the use of natural energies so that they are friendly to the environment, being their ultimate purpose the good of humanity.

LQI3011 SAFETY IN THE CHEMICAL PROCESS INDUSTRY

At the end of this course, the student will be able to identify the fundamental principles and application of safety and protection of the work environment in industries. He/She will be able to identify the theoretical and legal work safety principles, the safety of processes and occupational hygiene which apply to the chemical industry, including regulations. The student will also learn the computer tools that exist to implement safety in industries.

LQI3021 MODELING AND SIMULATION IN CHEMICAL PROCESS ENGINEERING

At the end of this course, the student will be able to apply the general concepts of programming to develop a formal methodology to solve problems with computer tools, defining an algorithm and using Excel as an interactive numerical software, VBA programming language and Matlab. These tools will allow him/her to solve chemical process, food and/or environmental engineering problems.

LQI3041 TRANSPORTATION PROCESSES I

At the end of this course, the student will be able to identify the mechanisms of momentum and heat transport processes and use them in associated transfer processes, applying them to the solution of industrial and environmental problems.

LQI3051 TRANSPORTATION PROCESSES LAB I

At the end of this course, the student will be able to identify, operate and experiment with test plant equipment related to momentum and heat transport processes, interpreting the results and evaluating their performance, relating this information to the knowledge acquired in the Transportation Processes I course.

SIXTH SEMESTER

LIN3021 SUSTAINABLE ENGINEERING

At the end of this course, the student will be able to identify and analyze the main problems that exist with regards to the environment. The student will be able to define criteria for the

detection of environmental problems, analyzing their consequences and proposing solutions.

LIN3031 ENVIRONMENTAL BIOTECHNOLOGY

At the end of this course, the student will be able to enumerate and calculate the parameters of biochemical kinetics applied to the design of reactors. The student will also make a list of adequate methodologies to analyze intermittent and continuous biotechnological processes which select enzymatic microorganisms and systems to specify microbial and enzymatic reactors.

LQI3081 STATISTICAL CONTROL OF PRODUCTS AND PROCESSES

At the end of this course, the student will be able to understand and apply statistics and probability to solve chemical, food and environmental engineering problems, developing the skills to use statistical computer programs to analyze data. The student will also interpret the data and graphs with statistical estimates, inferences and regression analysis.

LQI3101 TRANSPORTATION PROCESSES II

At the end of this course, the student will be able to apply the techniques of mass transport processes in the associated transfer processes, and apply these concepts to the solution of industrial and environmental problems.

LQI3111 UNITARY OPERATIONS OF FLUID FLOW

At the end of this course, the student will be able to identify the behavior of fluids, designing transference processes in tubes, ducts and their accessories.

LQI3121 UNITARY OPERATIONS OF FLUID TRANSFER

At the end of this course, the student will be able to apply the techniques of heat transfer processes in the associated transfer processes, and apply these concepts to the solution of industrial and environmental problems.

LQI3131 UNITARY OPERATIONS LAB

At the end of this course, the student will be able to identify and operate test plant equipment related to fluid flows, interpreting the results and evaluating their performance, relating this information to the knowledge acquired in the Unitary Operations of Fluid Flow course.

LQI3141 TRANSPORTATION PROCESSES LAB II

At the end of this course, the student will be able to identify and operate test plant equipment related to transport processes, interpreting the results and evaluating their performance, relating this information to the knowledge acquired in the Transportation Processes II course.

SEVENTH SEMESTER

LIN4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply the knowledge acquired in previous courses, developing experimental, documentation, reporting and process analysis skills

in industry, through professional practices of field research projects in his/her field of concentration.

LIN4021 ENVIRONMENTAL PROTECTION IN THE CHEMICAL INDUSTRY

At the end of this course, the student will be able to identify the conceptual fundamentals and select the methods for environmental safety and protection in industries. The student will be able to describe the theoretical and legal foundations of security and environmental protection in industries, including regulations. Also, the student will use and calculate, with computer tools and models, simulations and methods to solve industrial environmental protection problems.

LIN4031 WASTEWATER TREATMENT

At the end of this course, the student will be able to master the unitary and process operations required to configure urban and industrial wastewater treatment plants.

LIN4041 AIR POLLUTION CONTROL

At the end of this course, the student will be able to debate on the origin and classification of atmospheric pollutants, meteorology, natural purification processes, dispersion models, control and pollution measurement equipments, as well as existing environmental regulations. The student will be able to analyze national and international air quality standards, selecting and designing equipment to control particle and gas emissions, in order to minimize atmospheric pollution.

LQI4021 UNITARY OPERATIONS OF MASS TRANSFERENCE

At the end of this course, the student will be able to dominate the basic unitary operations involved in mass transfer in fluid and equilibrium phases. He/She will describe the principles and calculate with different methods, the design of distillation, absorption, extraction, and humidification equipment.

TIN4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the acquired knowledge in his/her environmental engineering major, and to tackle specific problems in his/her area of concentration with innovative technical solutions.

EIGHTH SEMESTER

LIN4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply the knowledge acquired in previous courses, developing experimental, documentation, reporting and process analysis skills in industries through professional practices of field research projects in his/her field of concentration.

LIN4061 ENVIRONMENTAL CONTROL EQUIPMENT DESIGN

At the end of this course, the student will be able to establish the conditions and characteristics of industrial processes susceptible to contaminations. The student will establish process diagrams for the treatment of polluting emissions or environ-

mental effects, designing equipments that treat and reduce possible harm, considering in their design technical, legal, environmental and economic aspects.

LIN4071 WASTE TREATMENT

At the end of this course, the student will be able to identify the different types of solid wastes and its sources, detailing the composition characteristics of different types of wastes: municipal, industrial, hospital, etc. The student will be able to calculate the physical and chemical properties of solid waste to assign value to subsequent treatment, disposal, incineration and recycling processes. Also, the student will be able to propose handling, storing, transportation, treatment, processing, energy recovery, and recycling strategies for hazardous and non-hazardous solid waste based on environmental laws.

LIN4081 ENVIRONMENTAL ANALYSIS

At the end of this course, the student will be able to dominate the theory and develop practical skills in tests developed for the analysis of air, water, waste, soil and microorganisms. The student will apply the knowledge acquired in experiments to solve problems expressly raised that are related to processes and operations of environmental engineering.

TIN4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the acquired knowledge in his/her environmental engineering major, and to tackle specific problems in his/her area of concentration with innovative technical solutions.

TIN4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the acquired knowledge in his/her environmental engineering major, and to tackle specific problems in his/her area of concentration with innovative technical solutions.

FOOD ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIA1011 INTRODUCTION TO FOOD ENGINEERING

At the end of this course, the student will be able to describe different fields of application of food engineering, discerning the main factors responsible for food spoilage and combining theory and practice to preserve representative foodstuffs.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LBI1011 INTRODUCTION TO BIOLOGY

At the end of this course, the student will be able to identify the general principles that determine, define, and characterize living beings. The student will integrate his/her knowledge about diversity and properties emerging from life in a physiochemical evolutionary context.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQI1021 MATERIAL BALANCES

At the end of this course, the student will be able to develop a clear and systematic methodology to formulate and solve material balances for different processes.

LQI1031 INTRODUCTION TO DESIGN IN CHEMICAL PROCESS ENGINEERING

At the end of this course, the student will be able to identify how engineers face and solve problems, raising their awareness and interest in the types of problems that an engineer faces. The purpose of the course is to present to the students the engineering method, concentrating on six main goals: self-regulation, communication, teamwork, problem solution, modeling and quality.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

LBI2081 MICROBIOLOGY

At the end of this course, the student will be able to correctly explain the structure, metabolism, and growth conditions of microorganisms, as well as to describe the techniques to culture and quantify them, and to select adequate methods for their control.

LBI2091 MICROBIOLOGY LAB

At the end of this course, the student will be able to work in sterile conditions and to develop needed lab abilities to handle, grow and preserve microbiological specimens.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LQI2011 ENERGY BALANCES

At the end of this course, the student will be able to formulate and solve energy balance, identifying the different energy interactions between and system and its environment, across its borders, transference of energy as well as heat and work to achieve changes in internal energy. He/She will use

information of properties using tables, thermodynamic diagrams and some predictive methods which are ideal for pressure-volume-temperature (PVT), pressure heat capacity, constant volumes (C_p, C_v), ideal properties, internal energy (U), and enthalpy (H). The student will learn and develop a clear and systematic methodology to solve energy balance in different process equipment.

LQI2021 LABORATORY OF THERMOPHYSICAL PROPERTIES

At the end of this course, the student will be able to operate lab equipment, as well as to interpret the results, relating them to the knowledge acquired in thermodynamics.

LQU1051 ORGANIC CHEMISTRY I

At the end of this course, the student will be able to differentiate the diverse functional groups, and the structure of organic compounds, identifying different organic reactions and their mechanisms. The student will handle nomenclature, stereochemistry, structure and reaction in acid-base processes adequately.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER

FIS1011 PHYSICS

At the end of this course, the student will be able to handle basic concepts related to classic mechanics, electromagnetism and optics using laws of classic physics.

LIA2011 FOOD MICROBIOLOGY

At the end of this course, the student will be able to describe the importance of microorganisms in relation to: food spoilage and its prevention, sanitary quality of a product, and the cause of food borne diseases and diseases caused by food preparation. The student will explain how different intrinsic and extrinsic factors affect foods and their adequate preservation.

LIA2021 THERMODYNAMIC PROPERTIES OF FOOD

At the end of this course, the student will be able to apply fundamental of thermodynamics related to processes and reactions that occur in food. The student will apply theories seen in class to practical concepts to explain the evolution of biotechnological processes as a function of energy changes.

LQU2051 ANALYTICAL CHEMISTRY

At the end of this course, the student will be able to identify the principles of analytical chemistry, and apply them to the solution of chemistry, biology and health problems.

LQU2061 ANALYTICAL CHEMISTRY LAB

At the end of this course, the student will be able to manipulate the material and lab equipment utilized in analytical

chemistry, learning the techniques of chemical analysis normally employed in quality control labs.

LQU2071 BIOCHEMISTRY I

At the end of this course, the student will be able to correctly describe the structure, physicochemical characteristics, function and interaction of biomolecules, as well as the methodology used for their study.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

FIFTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LIA3011 BIOCHEMISTRY OF FOOD

At the end of this course, the student will be able to: describe the principal metabolic routes in living organisms, enunciate the changes they cause in vegetable and animal products, identify major components such as proteins, lipids, and fat, and relate the functional characteristics of these components in specific foodstuffs.

LIA3021 BIOCHEMISTRY OF FOOD LAB

At the end of this course, the student will be able to: describe biochemical processes that occur in living systems, identify characteristics of biochemical compounds in food, and understand how they are affected during processing.

LIA3031 TRANSPORT PHENOMENA IN FOODS

At the end of this course, the student will be able to: list transport phenomena related to food, discuss basic concepts of momentum, heat and mass transfer in unit operations, and describe pertinent differences in physical operations where Newtonian and non-Newtonian fluids are handled.

LQI3021 MODELING AND SIMULATION IN CHEMICAL PROCESS ENGINEERING

At the end of this course, the student will be able to apply the general concepts of programming to develop a formal methodology to solve problems with computer tools, defining an algorithm and using Excel as an interactive numerical software, VBA programming language and Matlab. These tools will allow him/her to solve chemical process, food and/or environmental engineering problems.

SIXTH SEMESTER

LIA3041 NUTRITIONAL BIOCHEMISTRY

At the end of this course, the student will be able to: identify how each nutrient is digested, absorbed, transported, stored, and disposed of by humans, the metabolic functions of each nutrient and the effect of their excess and deficiency on human health, and know the nutrition requirements of each nutrient in healthy people, regarding their sex, age, physical constitution and origin, in order to find and use this information.

LIA3051 MOMENTUM TRANSFER AND RHEOLOGY OF FOOD

At the end of this course, the student will be able to understand and name concepts of rheology, rheological properties and unit operations of momentum transfer. The student will describe the methodology to design equipment that transfers or handles process food fluids.

LIA3061 MOMENTUM TRANSFER AND RHEOLOGY OF FOOD LAB

At the end of this course, the student will be able to: apply methods for rheological characterization of food fluids, enunciate and properly handle instruments and equipment involved in transferring food fluids, and relate theoretical concepts with common calculations in the design and selection of engines and pumping, stirring and mixing equipment, as well as in size reducing and mechanical separation operations.

LIA3071 FOOD CHEMISTRY

At the end of this course, the student will be able to: describe the fundamental principles of spoiling and beneficial changes in foodstuffs due to exogenous and endogenous agents, analyze aspects of functionality of main components (water, lipids, carbohydrates, proteins, enzymes and pigments), and

describe their influence on the physical, chemical, nutritional and organoleptic properties of food.

LIA3081 FOOD CHEMISTRY LAB

At the end of this course, the student will be able to develop the skills needed to handle chemical and biological materials in research, and interpret observations and results obtained in the lab.

LIA3091 FOOD ANALYSIS

At the end of this course, the student will be able to explain the principal methods to quantify food components and, understanding their fundamentals, choose the best to make a determination in a given situation. The student will also specify possible modifications without compromising the accuracy of results, as well as handle data and results.

LIA3101 FOOD ANALYSIS LAB

At the end of this course, the student will be able to: apply the principal methods to quantify food components, analyze and discuss results, evaluate applied methods, recommend the appropriate method according to the sample and the purpose of the analysis, and formulate conclusions regarding the characteristics of analytical methods.

LQI3081 STATISTICAL CONTROL OF PRODUCTS AND PROCESSES

At the end of this course, the student will be able to understand and apply statistics and probability to solve chemical, food and environmental engineering problems, developing the skills to use statistical computer programs to analyze data. The student will also interpret the data and graphs with statistical estimates, inferences and regression analysis.

SEVENTH SEMESTER

LIA4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to use the knowledge acquired in previous courses to develop experimental, documentation, and reporting skills of project and process analysis in this industry through activities of professional and research practices in his/her field.

LIA4021 PROCESSES OF ENERGY TRANSFER IN FOOD

At the end of this course, the student will be able to describe heat transfer phenomena and their application to equipment design, in tubular and plate heat exchangers. The student will be able to discuss the basic laws of microorganism destruction and heat transfer. Likewise, the student will be able to specify the basic selection and design criteria for heat exchangers, evaporators, chillers and freezing equipment for food.

LIA4031 PROCESSES OF ENERGY TRANSFER IN FOOD LAB

At the end of this course, the student will be able to apply the theoretical knowledge acquired in this course to energy transfer processes in food and to handle equipment involved in heat transfer operations.

LIA4041 FOOD PROCESSING

At the end of this course, the student will be able to: enunciate diverse processes to preserve food (fermenting, salting, sugar coating, curing, smoking, and packaging), describe fundamental principles for these processes, and evaluate equipments needed to process food industrially so they are harmless and of good quality according to the techniques mentioned.

LIA4051 FOOD PROCESSING LAB

At the end of this course, the student will be able to: explain the bases of food processing methodology, with special emphasis on preventing biological, microbiological and chemical deterioration, describe technologies for processing and preserving food using fermenting, curing, stuffing, smoking, slating, sugar coating and packaging.

LIA4061 FOOD PHYSICOCHEMISTRY

At the end of this course, the student will be able to note the importance of water activity in food processing and preservation, as well as identify and describe important physicochemical systems and phenomena in food products.

LIA4071 FOOD PHYSICOCHEMISTRY LAB

At the end of this course, the student will be able to: apply principles involved in processing, handling and storage of food with a reduced water availability, describe physicochemical properties and effects of water and other variables in the kinetics of spoilage, and identify and specify food systems and their properties when they exist such as gel, foam, or emulsion.

TIA4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the acquired knowledge in his/her food engineering major, and to tackle specific problems in his/her area of concentration with innovative technical solutions.

EIGHTH SEMESTER**LIA4081 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to use the knowledge acquired in previous courses and to develop experimental, documentation, and reporting skills of project and process analysis in this industry through activities of professional and research practices in his/her field.

LIA4091 FOOD ENGINEERING

At the end of this course, the student will be able to: explain and apply unit operations of mass transfer in food engineering, describe general principles of material and energy balance, and relate fundamental principles of mass transfer and to master methodology for the analysis and design of processes.

LIA4101 FOOD ENGINEERING LAB

At the end of this course, the student will be able to apply theoretical principles studied in food engineering and develop

practical experience to deepen in the analysis, processes and representative equipment of food industry. The student will also develop lab skills and conduct experiments in projects related to the theoretical course.

LIA4111 PHYSICAL AND SENSORIAL PROPERTIES OF FOOD

At the end of this course, the student will be able to describe the most important physical and sensory attributes of food, as well as describe techniques to evaluate them. The student will ensure total quality in food manufacturing related to the production process and later handling, and describe physical, chemical, nutritional, microbiological and sensory quality properties of each food group.

LIA4121 QUALITY CONTROL OF FOOD LAB

At the end of this course, the student will be able to list and apply analysis techniques of food quality properties and discuss the type of quality analysis appropriate for each kind of food.

LIA4131 DESIGN AND DEVELOPMENT OF PRODUCTS AND FOOD PROCESSING

At the end of this course, the student will be able to describe methodology for the design of food products and processes, integrating the knowledge acquired in other courses about technology, engineering, economics, and related areas. The student will follow procedures to obtain high quality food products that have a competitive advantage in the processed food markets, as well as develop a new product.

TIA4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the acquired knowledge in his/her food engineering major, and to tackle specific problems in his/her area of concentration with innovative technical solutions.

TIA4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the acquired knowledge in his/her food engineering major, and to tackle specific problems in his/her area of concentration with innovative technical solutions.

INDUSTRIAL ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LI1011 INTRODUCTION TO INDUSTRIAL ENGINEERING

At the end of this course, the student will be able to use basic industrial engineering tools that allow him/her to have a general knowledge of his/her major. The student will be able to describe some basic concepts of this engineering and the way that they are used in a professional setting.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey

and understand familiar and new information orally and in writing.

LI1021 ERGONOMICS

At the end of this course, the student will be able to apply the principles of ergonomics, industrial psychology and work organization in order to obtain safe and efficient workstations.

LIM1021 COMPUTER DRAWING

At the end of this course, the student will be able to have adequate knowledge of technical drawing in engineering. Also, this course helps engineers in design, since engineers can be consulted on graphic solutions to problems, making schematics based on mechanisms, structural systems, and piping installations with applications in engineering using CAD as a tool.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

FIS1011 PHYSICS

At the end of this course, the student will be able to handle basic concepts related to classic mechanics, electromagnetism and optics using laws of classic physics.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LI12011 MANUFACTURING PROCESSES

At the end of this course, the student will be able to select the ideal manufacturing process to create a product with the objective that it have the required characteristics for the function it will carry out. In order to accomplish this, the student will be able to: 1) identify different industries and their processes; classify the different manufacturing processes and use criteria to select a process. 2) Describe the different smelting

processes, the differences between them and their applications. 3) Describe the different processes of plastic deformation, the differences between them and their applications in different products and materials. 4) Describe the diverse processes of machining, the differences between them and the applications to different products and materials, as well as to discriminate their use in different situations. 5) Identify the convenience of using a complementary manufacturing process to obtain the desired attributes in a product.

LII2021 MANUFACTURING PROCESSES LAB

At the end of this course, the student will be able to identify the most relevant process parameters in manufacturing processes, through their observation.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAD2041 INFORMATION TECHNOLOGY IN BUSINESS

At the end of this course, the student will be able to value the strategic importance of information technologies within organizations; and to develop skills to use them as support in information systems, decision making, and competitive advantage of organizations.

LII2031 FINANCIAL AND ECONOMIC ENGINEERING

At the end of this course, the student will be able to identify and use interest rate as a valuation instrument to program investments, taking into account time as an analysis factor. The student will define the different types of interest in the market and analyze their repercussions in investment, differentiating the true cost of an interest rate in investments and valuing and directing financial requirements through time.

LII2041 OPTIMIZATION METHODS AND MODELS

At the end of this course, the student will be able to understand mathematical programming models to solve practical application problems in engineering related to the optimization of resources or to the solution of combinatorial problems. The student will formulate linear, non-linear, quadratic, integer combinatorial and restriction programming problems related to practical engineering applications.

LII2051 DATA ANALYSIS

At the end of this course, the student will be able to gather, organize, describe and present univariate data in such a way that he/she may obtain relevant information in precise manner. The student will also learn to use probability as a language and measurement of uncertainty, and as a basis for decision-making.

LII2061 MATHEMATICAL PROGRAMMING METHODS I

At the end of this course, the student will be able to solve practical application problems of industrial engineering related to linear programming. The student will know and apply the methods of linear optimization and its fundamentals.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LII3011 MATERIAL HANDLING AND WAREHOUSING

At the end of this course, the student will be able to understand the main models related to the design and operation of warehouses, as well as regional planning and problems related to distribution routes. The student will formulate mathematical programming problems related to decision-making processes in the areas of warehousing, regional planning and vehicle routes.

LII3021 STATISTICAL INFERENCE

At the end of this course, the student will be able to identify and analyze some common statistical distributions, carrying out unknown point and parameter estimations, hypothesis testing of unknown parameters from sample data.

LII3031 MATHEMATICAL PROGRAMMING METHODS II

At the end of this course, the student will be able to under-

stand the advantages of using optimization tools in operations related to production, logistics and management. The student will build integer programming models that serve as support in the decision-making process.

LII3041 FACILITY DESIGN

At the end of this course, the student will be able to analyze and design alternatives to space distribution, in order to increase the efficiency of facilities and service industries, considering different requirements and flows of an installation.

LII3051 METHOD ENGINEERING

At the end of this course, the student will be able to conduct time and motion studies that allow line balancing and evaluation of worker performance.

SIXTH SEMESTER

LII3061 SYSTEMS SIMULATION

At the end of this course, the student will be able to analyze a system, identifying its main components with the objective of developing a model that simulates its behavior, using programming languages (for general and/or specific purposes) and other support programs to analyze and design alternatives to improve the performance of the system.

LII3071 MANUFACTURING SYSTEMS DESIGN

At the end of this course, the student will be able to understand the analytic principles of design, analysis and control of manufacturing systems. The student will integrate the concepts of variability and stochastic analysis learned in other manufacturing courses.

LII3081 SAMPLING METHODS

At the end of this course, the student will be able to select and apply appropriate sampling methods to a specific situation.

LII3091 LEAN SYSTEMS

At the end of this course, the student will be able to describe lean principles, as well as the opportunities to apply lean systems, principles and tools, as well as quality tools in different organizations.

LII3101 REGRESSION AND TIME SERIES

At the end of this course, the student will be able to differentiate the concepts of regression models, considering the mathematical model concepts and applying them to real problems. The student will validate models through forecasting techniques, applying quantitative forecasting techniques and using computer software that are necessary for numerical results.

LII3111 SIMULATION LAB

At the end of this course, the student will be able to analyze the tools of the ARENA software, in system simulations, to analyze information and make timely decisions.

LIM3061 COMPUTER-INTEGRATED MANUFACTURING

At the end of this course, the student will be able to handle and apply the most modern technology to manufacturing processes.

SEVENTH SEMESTER

LIG4021 INVENTORY MODELS

At the end of this course, the student will be able to design inventory models that allow him/her to calculate optimal order quantities and reorder points, either in deterministic cases, as well as in uncertainty cases, where demand and/or reorder time are uncertain.

LII4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply his/her knowledge and acquire skills by joining multi-discipline groups to carry out specific tasks in the different areas of industrial engineering, solving adaptation situations to a new work environment.

LII4021 LEAN MANUFACTURING

At the end of this course, the student will be able to apply the basic concepts of lean manufacturing, identifying the areas of application and using the different ways to measure performance.

LII4031 QUALITY CONTROL

At the end of this course, the student will be able to understand and apply different concepts, systems and control graphs as tools to obtain consistent quality products and services. The student will understand the workings of the quality control area in a manufacturing or service company.

LII4041 DESIGN OF EXPERIMENTS

At the end of this course, the student will be able to identify and apply the main concepts of methods of solution for some design experiments.

TII4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the knowledge acquired to delve into the topics in any of the concentrations of industrial engineering.

EIGHTH SEMESTER

LII4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply his/her knowledge and acquire skills by joining multidisciplinary groups to carry out specific tasks in the different areas of industrial engineering, solving adaptation situations to a new work environment.

LII4061 OPERATION MANAGEMENT CASES

At the end of this course, the student will be able to identify and understand real customer or market problems and needs, analyzing said problems using the perspective of complex systems. The solutions to these problems and needs will be developed by the student in a logical, conceptual, deductive and critical way.

LII4071 SUPPLY CHAIN MANAGEMENT

At the end of this course, the student will be able to describe a supply chain and the essential elements to manage it correctly.

LII4081 SIX SIGMA

At the end of this course, the student will be able to develop the DMAIC methodology in practical problems to improve quality in processes.

TII4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the knowledge acquired to delve into the topics in any of the concentrations of industrial engineering.

TII4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the knowledge acquired to delve into the topics in any of the concentrations of industrial engineering.

LOGISTICS ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIG1011 INTRODUCTION TO LOGISTICS ENGINEERING

At the end of this course, the student will be able to use basic industrial engineering tools that allow him/her to have a general knowledge of his/her major. The student will be able to describe some basic concepts of this engineering and the way that they are used in a professional setting.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

CON2011 FINANCIAL ADMINISTRATION

At the end of this course, the student will be able to analyze, identify and debate about the role of financial administrators in companies, different forms of operation, basic tools of financial analysis and planning, financial evaluation through the analysis of financial reasoning and cash flow, structure of assets and financial structure. In the same way, he/she can analyze determinants for asset evaluation, the value of money through time, risk and profit analysis and the characteristics and forms to evaluate fixed assets and common shares in national and international markets.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LNI3021 INTERNATIONAL LOGISTICS I

At the end of this course, the student will be able to describe the importance of international companies' logistic activities, identifying the general principles of international purchasing administration, as well as the location of operations of an international company. The student will also be able to define the principles of Customer Relationship Management (CRM) systems.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAD4071 PROJECT AND PROGRAM MANAGEMENT

At the end of this course, the student will be able to apply techniques and tools for project administration through a complete and coherent methodology, valid for any kind of project, including organizational, human and technical features.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIG2011 PURCHASING AND PROVISIONING LOGISTICS

At the end of this course, the student will be able to develop

a purchasing strategy for a company, considering all the important factors for a successful strategy.

LN13071 INTERNATIONAL LOGISTICS II

At the end of this course, the student will be able to describe the importance of international companies' logistic activities, identifying the general principles of international purchasing administration, as well as the location of operations of an international company. The student will also be able to define the principles of Customer Relationship Management (CRM) systems.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LEC2051 INTERNATIONAL TRADE

At the end of this course, the student will be able to analyze, through an economic theoretical perspective, trade patterns of countries, and to understand the weight that economic policies exert over those patterns.

LIG2021 INFORMATION TECHNOLOGIES IN LOGISTICS

At the end of this course, the student will be able to describe the use of information technologies in different elements of the supply chain, listing the competitive advantages to be had through the use of information technology and logistics. The student will select actual information technologies to support business processes in an organization.

LIG2031 HEURISTIC METHODS

At the end of this course, the student will be able to use constructive heuristics to obtain feasible solutions to integer and combinatorial programming problems of practical application in logistics and manufacturing.

LII2041 OPTIMIZATION METHODS AND MODELS

At the end of this course, the student will be able to understand mathematical programming models to solve practical application problems in engineering related to the optimization of resources or to the solution of combinatorial problems. The student will formulate linear, non-linear, quadratic, integer combinatorial and restriction programming problems related to practical engineering applications.

LII2051 DATA ANALYSIS

At the end of this course, the student will be able to gather,

organize, describe and present univariate data in such a way that he/she may obtain relevant information in precise manner. The student will also learn to use probability as a language and measurement of uncertainty, and as a basis for decision-making.

LII2061 MATHEMATICAL PROGRAMMING METHODS I

At the end of this course, the student will be able to solve practical application problems of industrial engineering related to linear programming. The student will know and apply the methods of linear optimization and its fundamentals.

FIFTH SEMESTER

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LAD4061 SIMULATION IN BUSINESS

At the end of this course, and based on his/her experiences in simulation and business simulators, the student will be able to create models that facilitate strategic problem analysis, based on their modeling and simulation.

LIG3011 METAHEURISTIC METHODS

At the end of this course, the student will be able to use meta-heuristic methods to solve optimization problems related to logistics and manufacturing systems, implementing meta-heuristic methods in a programming language, and proposing solution methodologies based on metaheuristic methods for optimization problems related to logistics and manufacturing systems.

LIG3031 SYSTEM DYNAMICS LAB

At the end of this course, the student will be able to build dynamic models of systems using commercial software.

LII2031 FINANCIAL AND ECONOMIC ENGINEERING

At the end of this course, the student will be able to identify and use interest rate as a valuation instrument to program investments, taking into account time as an analysis factor. The student will define the different types of interest in the market and analyze their repercussions in investment, differentiating the true cost of an interest rate in investments and valuing and directing financial requirements through time.

LII3021 STATISTICAL INFERENCE

At the end of this course, the student will be able to identify and analyze some common statistical distributions, carrying out unknown point and parameter estimations, hypothesis testing of unknown parameters from sample data.

LII3031 MATHEMATICAL PROGRAMMING METHODS II

At the end of this course, the student will be able to understand the advantages of using optimization tools in operations related to production, logistics and management. The student will build integer programming models that serve as support in the decision-making process.

SIXTH SEMESTER**LIG3041 NETWORK FLOW**

At the end of this course, the student will be able to describe the theoretical properties of network flow models, the solution algorithms for network flow problems. The student will learn to implement solution algorithms for network flow problems in a programming language.

LIG3051 LEAN LOGISTICS

At the end of this course, the student will be able to describe lean principles, the opportunities to apply lean systems in logistics in different organizations. The student will also learn the basics and tools of lean manufacturing, as well as some quality control tools.

LII3061 SYSTEMS SIMULATION

At the end of this course, the student will be able to analyze a system, identifying its main components with the objective of developing a model that simulates its behavior, using programming languages (for general and/or specific purposes) and other support programs to analyze and design alternatives to improve the performance of the system.

LII3071 MANUFACTURING SYSTEMS DESIGN

At the end of this course, the student will be able to understand the analytic principles of design, analysis and control of manufacturing systems. The student will integrate the concepts of variability and stochastic analysis learned in other manufacturing courses.

LII3101 REGRESSION AND TIME SERIES

At the end of this course, the student will be able to differentiate the concepts of regression models, considering the mathematical model concepts and applying them to real problems. The student will validate models through forecasting techniques, applying quantitative forecasting techniques and using computer software that are necessary for numerical results.

LII3111 SIMULATION LAB

At the end of this course, the student will be able to analyze the tools of the ARENA software, in system simulations, to analyze information and make timely decisions.

LN13051 INTERNATIONAL TRADE AGREEMENTS

At the end of this course, the student will be able to apply, in specific cases, his/her knowledge regarding opportunity niches that are available to Mexican and foreign companies in the commercial treaty regulatory framework.

SEVENTH SEMESTER**LIG4011 PROFESSIONAL PRACTICES I**

At the end of this course, the student will be able to apply his/her knowledge and acquire skills by joining multi-discipline groups to carry out specific tasks in the different areas of logistics engineering, solving adaptation situations to a new work environment.

LIG4021 INVENTORY MODELS

At the end of this course, the student will be able to design inventory models that allow him/her to calculate optimal order quantities and reorder points, either in deterministic cases, as well as in uncertainty cases, where demand and/or reorder time are uncertain.

LIG4031 LOGISTIC NETWORK DESIGN

At the end of this course, the student will be able to understand the importance of distribution network design in supply chains, describing and using performance measurements to evaluate how the supply chain works. The student will be able to list the main aspects to take into consideration in network distribution design.

LIG4041 PRODUCTION PLANNING AND PROGRAMMING

At the end of this course, the student will be able to use appropriate techniques and models to plan and control an organization's operations in the mid and short term, with special emphasis in material handling.

LIG4051 WAREHOUSING AND LOGISTICS

At the end of this course, the student will be able to understand the principal models related to the design and operation of warehouses, formulating mathematical programming problems related to decision-making in warehousing areas, implementing algorithms to solve problems related to design and operation of warehouses. The student will use special software to solve mathematical programming problems.

TIG4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the knowledge acquired to delve into the topics in any of the concentrations of Logistics engineering.

EIGHTH SEMESTER**LIG4061 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to apply his/her knowledge and acquire skills by joining multi-discipline groups to carry out specific tasks in the different areas of logistics engineering, solving adaptation situations to a new work environment.

LIG4071 LOGISTICS CASES

At the end of this course, the student will be able to identify and understand real customer or market problems and needs, analyzing said problems using the perspective of complex sys-

tems. The solutions to these problems and needs will be developed by the student in a logical, conceptual, deductive and critical way.

LIG4081 DISTRIBUTION ROUTE DESIGN

At the end of this course, the student will be able to understand the importance of the design of transportation routes in supply chains, describing the different methods of transportation and their functional characteristics, as well as transport networks design options and the impact of the decisions associated to transportation activities in supply chains.

LIG4091 OPTIMIZATION METHODS FOR LOGISTICS SYSTEMS

At the end of this course, the student will be able to understand the importance of decomposition methods in large-scale optimization problems and their applications in diverse problems related to the optimization of logistics systems. The student will evaluate the performance of the decomposition methods in optimization and compare their performance to large-scale problems, applying decomposition algorithms to large-scale problems related to the optimization of logistics systems.

TIG4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the knowledge acquired to delve into the topics in any of the concentrations of logistics engineering.

TIG4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the knowledge acquired to delve into the topics in any of the concentrations of logistics engineering.

MECHANICAL ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIM1011 INTRODUCTION TO MECHANICAL ENGINEERING

At the end of this course, the students who have successfully completed the programmed activities will be able to recognize, compare and explain both orally and in writing, the different activities that a mechanical engineer can carry out within this profession.

LQU1011 GENERAL CHEMISTRY

At the end of this course, the student will be able to understand and correctly use the essential chemistry topics, such as the properties of matter, their chemical and physical characteristics, quantum physics, electronic structure, energy structure, the dynamic of chemical reactions and the conditions of chemical equilibrium.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIM1021 COMPUTER DRAWING

At the end of this course, the student will be able to have adequate knowledge of technical drawing in engineering. Also, this course helps engineers in design, since engineers can be consulted on graphic solutions to problems, making schematics based on mechanisms, structural systems, and piping installations with applications in engineering using CAD as a tool.

LIM1031 MATERIAL SCIENCE I

At the end of this course, the students who have successfully completed the programmed activities will be able to explain orally and in writing, the internal structural differences of solid materials used in engineering design. The student will be able to relate this internal structure with the properties of these materials.

LIM1041 METROLOGY LAB

At the end of this course, the student will be able to adapt to different measurement instruments, according to the characteristics of measurement and the requirements of the part to be measured.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIM2011 STATICS

At the end of this course, the student will be able to solve static equilibrium problems of particles and rigid bodies, related to design problems of engineering equipment. The student will be able to apply the knowledge of teamwork to solve static problems.

LIM2021 MATERIAL SCIENCE II

At the end of this course, the students who have successfully completed the programmed activities will be able to explain orally and in writing, the behavioral differences of steel used in the design of engineering equipments, as a consequence of the thermic treatments that are used on them.

LIM2031 MATERIAL SCIENCE LAB

At the end of this course, the student will be able to carry out experiments designed to demonstrate the mechanical properties of some materials, observing the techniques to improve these properties from certain thermic treatments and material processes.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LIM2041 MANUFACTURING I

At the end of this course, the student will be able to analyze the requirements and criteria for the selection and design of smelting processes, plastic deformation and welding. The student will have the scientific bases of each of these processes, understanding the stages, advantages and disadvantages of each.

LIM2051 MANUFACTURING LAB I

At the end of this course, the student will be able to have the theoretical and practical knowledge of different manufacturing processes such as machining. The student will know in detail the basic manufacturing processes, starting with theoretical concepts up to completion of said processes.

LIM2061 SOLID MECHANICS I

At the end of this course, the student will be able to carry out the analysis of solid bodies subject to static charges, in order to understand, explain and predict their behavior. The student will also be able to calculate and interpret normal, cutting, linear-static distortion, combined, principal and column efforts.

LIM2071 GENERAL KINEMATICS AND PARTICLE KINETICS

At the end of this course, the student will be able to solve particle and rigid body kinematic problems. The student will also

be able to solve particle kinetics related to design of engineering equipment.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undetermined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonality trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

MAT2091 VECTOR CALCULUS

At the end of this course, the student will be able to present, solve and interpret problems that include the concepts of trajectory, speed vectors, acceleration, tangents, normal and binormal. The student will use and interpret the concepts of divergent and rotational gradients, as well as their interactions. Also, presenting, solving and interpreting problems that include linear and area integrals, as well as interpreting the Green, Stokes and Gauss divergence theorems, and calculating the gradient, divergence and rotation in rectangular, cylindrical and spherical coordinate systems.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LI12031 FINANCIAL AND ECONOMIC ENGINEERING

At the end of this course, the student will be able to identify and use interest rate as a valuation instrument to program investments, taking into account time as an analysis factor. The student will define the different types of interest in the market and analyze their repercussions in investment, differentiating the true cost of an interest rate in investments and valuing and directing financial requirements through time.

LIM3011 MANUFACTURING II

At the end of this course, the student will be able to carry out a work plan which tries to find a solution to the manufacturing of a given number of pieces, in a set time frame and at a low production cost. The student will take into account the quality of the piece, production rate and cutting tools and conditions as well as the necessary equipment.

LIM3021 MANUFACTURING LAB II

At the end of this course, the student will be able to understand and perform operations on lathes, drills and milling cutters, applying his/her theoretical knowledge on the control of cut parameters, operation sequence and controlling the process variables, thus optimizing processes.

LIM3031 KINETICS OF RIGID BODIES

At the end of this course, the student will be able to use the concepts of moment of inertia, rigid body dynamics, dynamic reactions and vibrations.

LIM3041 SOLID MECHANICS II

At the end of this course, the student will be able to calculate and interpret: beam distortions, stress in non-linear beams, stress through impact, of elasto-plastic distortions and of concentration stress. The student will also apply the failure theories, through changes in temperature and in thin-walled pressure containers.

LIM3051 SOLID MECHANICS LAB

At the end of this course, the student will be able to visualize the properties that structural elements have with relation to their behavior, resistance, rigidity and stability when subjected to different loads.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

SIXTH SEMESTER

LIM3061 COMPUTER-INTEGRATED MANUFACTURING

At the end of this course, the student will be able to handle and apply the most modern technology to manufacturing processes.

LIM3071 BASIC THERMODYNAMICS

At the end of this course, the student will be able to master the basic concepts of thermodynamics, evaluating thermodynamic properties, analyzing processes and applying the principles of energy conservation. The student will also review the second law of Thermodynamics and entropy.

LIM3081 FLUID MECHANICS

At the end of this course, the student will be able to analyze the variation of pressure in a static fluid, and apply Archimedes' method. The student will also be able to analyze several common fluid mechanics problems, applying hydrodynamics integral and differential equations. Also, the student will analyze viscous flow problems, and the concept of boundary layer.

LIM3091 COMPUTER-INTEGRATED MANUFACTURING LAB

At the end of this course, the student will be able to operate the Center of Vertical Machining, and the Numerical Control Lathe to execute manually generated and CAD/CAM (Pro/Engineer) programs.

LIM3101 FINITE ELEMENTS

At the end of this course, the student will be able to apply border condition to FEM models, charges to FEM models, meshed models to FEM, improvement of meshed models to FEM. The student will also calculate efforts through the use of mechanics and Patran/Nastran, and distortions through the use of Patran.

LIM3111 MECHANISMS

At the end of this course, the student will be able to identify the structure of: mechanisms, cams, gears and gear trains. The student will also be able to analyze speed, acceleration, static and dynamic forces, and will understand the use of cams, gears and gear trains.

LIM3121 MECHANISMS LAB

At the end of this course, the student will be able to: identify the basic elements that make up a mechanism; identify kinematic pairs and determine their degree of movement; analyze the movement of a mechanism; verify the stability and reliability of a mechanism through prototypes; simulate the movements of a mechanism through the use of Creo (Pro/Engineer); and simulate the results of a mechanism search that solve proposed movements.

SEVENTH SEMESTER

LIM4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply his/her knowledge and acquire skills by joining multidisciplinary teams to perform specific tasks in the different fields of concentration of mechanical engineering. The student will also solve adaptation problems to new work environments.

LIM4021 APPLIED THERMODYNAMICS

At the end of this course, the student will be able to analyze and evaluate power cycles and their efficiencies, and refrigeration cycles and their performance ratios. The student will also learn gas mixes and gas and vapor mixes and apply these to air conditioning systems. The student will analyze the thermodynamic laws in systems that have chemical reactions, especially those of combustion and compressible flow.

LIM4031 DESIGN OF MACHINE ELEMENTS

At the end of this course, the student will be able to calculate and interpret the design of axes, unthreaded joint elements, power screws, springs, bearings, band and chain transmissions and gears.

LIM4041 HEAT TRANSFER FUNDAMENTALS

At the end of this course, the student will be able to know and evaluate heat transfer through one-dimensional and transient conduction, forced convection, natural and with phase shift and through radiation. The student will also learn the different types of heat exchangers, analyzing and evaluation the performance of each.

LIM4051 THERMAL SCIENCE LAB

At the end of this course, the student will be able to interpret: the first and second laws of thermodynamics, refrigeration and power generation cycles, heat transfer modes and some of their mathematical models and equations. The student will apply this knowledge to thermal equipment and machines.

TIM4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the knowledge acquired to delve into the topics in any of the concentrations of mechanical engineering.

TIM4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the knowledge acquired to delve into the topics in any of the concentrations of mechanical engineering.

EIGHTH SEMESTER**LIM4061 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to apply his/her knowledge and acquire skills by joining multidisciplinary teams to perform specific tasks in the different fields of concentration of mechanical engineering. The student will also solve adaptation problems to new work environments.

LIM4071 VIBRATION LAB

At the end of this course, the student will be able to identify the harmonic analysis of signals, free vibrations of systems with one or more degrees of freedom, forced vibrations of systems with one or more degrees of freedom, vibration of strings, beams and analysis of machine vibrations.

LIM4081 MECHANICAL SYSTEM DESIGN

At the end of this course, the student will be able to use the rudimentary design process to determine the best solution to a problem. The student will also learn to: integrate machine components to functional assemblies; animate assemblies by using CAD; calculate critical reactions using CAD, calculate critical efforts through FEM and calculate the optimization of machine components through CAD and FEM.

LIM4091 VIBRATIONS

At the end of this course, the student will be able to identify systems with one degree of freedom, measure vibrations, identify systems with two or more degrees of freedom, identify vibration in distributed mass systems, and apply the finite element to structural vibrations.

LIM4101 ELECTRO-OLEO-PNEUMATIC SYSTEMS

At the end of this course, the student will be able to identify the principles of fluid mechanics in valves, pumps, hydraulic and pneumatic cylinders, motors and semi-rotating actuators, and equipment for electronic control.

LIM4111 ELECTRO-OLEO-PNEUMATIC SYSTEMS LAB

At the end of this course, the student will be able to apply control and regulation knowledge to analyze the movements in a given system, thus being able to build a circuit, applying Pascal, Boyle and Charles Laws. This will allow the student to understand the principles of transmissibility, compressibility and stability in a given system.

TIM4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the knowledge acquired to delve into the topics in any of the concentrations of mechanical engineering.

MECHATRONICS ENGINEERING

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX011 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIS1011 INTRODUCTION TO PROGRAMMING

At the end of this course, the student will be able to master the basic concepts of structures, conditions, variables and headings to create programs that solve general problems.

LMT1011 INTRODUCTION TO MECHATRONIC ENGINEERING

At the end of this course, the student will be able to identify the areas that make up the study of mechatronics to carry out applications in all areas of engineering.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIR1031 DIGITAL DESIGN

At the end of this course, the student will be able to identify

and manage binary numerical systems to design combinational and sequential logic circuits.

LIR1041 DIGITAL DESIGN LAB

At the end of this course, the student will be able to design, simulate and integrate combinational and sequential logic circuits with digital electronic applications.

LIS1031 OBJECT-ORIENTED PROGRAMMING

At the end of this course, the student will be able to design and program with an object oriented paradigm. The student will also know and apply the design techniques, UML (Unified Modeling Language) notation and Java or C# programming languages.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LIM1021 COMPUTER DRAWING

At the end of this course, the student will be able to have adequate knowledge of technical drawing in engineering. Also, this course helps engineers in design, since engineers can be consulted on graphic solutions to problems, making schematics based on mechanisms, structural systems, and piping installations with applications in engineering using CAD as a tool.

LIM2011 STATICS

At the end of this course, the student will be able to solve static equilibrium problems of particles and rigid bodies, related to design problems of engineering equipment. The student will be able to apply the knowledge of teamwork to solve static problems.

LMT2011 ELECTRICAL CIRCUITS

At the end of this course, the student will be able to apply the techniques of electrical circuit analysis to design applications.

LMT2021 ELECTRICAL CIRCUIT LAB

At the end of this course, the student will be able to identify, design, synthesize and analyze electrical circuits.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

FIS3011 ELECTROMAGNETISM

At the end of this course, the student will be able to understand electric and magnetic phenomena, analyzing everyday situations and identifying such phenomena to solve problems related to them. Also, the student will be able to transfer learned processes to mathematical language to quantify them.

LIM2071 GENERAL KINEMATICS AND PARTICLE KINETICS

At the end of this course, the student will be able to solve particle and rigid body kinematic problems. The student will also be able to solve particle kinetics related to design of engineering equipment.

LMT2031 PROPERTIES OF MATERIALS

At the end of this course, the student will be able to identify the properties of common materials and explain their structure, processing, manufacturing and behavior of different types for their application in engineering.

LMT2041 ANALOG ELECTRONICS

At the end of this course, the student will be able to analyze and design analog electronic circuits that work as a tool in signal conditioning that allow the automation of mechatronic systems.

LMT2051 ANALOG ELECTRONICS LAB

At the end of this course, the student will be able to describe the operation, construction and evaluation of analog electronic circuits that can be used in signal conditioning that allow the automation of mechatronic systems.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of un-

determined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LIM3031 KINETICS OF RIGID BODIES

At the end of this course, the student will be able to use the concepts of moment of inertia, rigid body dynamics, dynamic reactions and vibrations.

LIS2051 LANGUAGES AND PARADIGMS OF PROGRAMMING

At the end of this course, the student will be able to identify and apply the languages and paradigms of existing programming, selecting the most appropriate for the diverse problems that are present.

LMT3011 DIGITAL ELECTRONICS

At the end of this course, the student will be able to describe the characteristics of modern digital electronics technology, and propose their use in mechatronic systems.

LMT3021 DIGITAL ELECTRONICS LAB

At the end of this course, the student will be able to analyze, design, construct and test digital systems that can be used in the construction of mechatronic systems.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

MAT2091 VECTOR CALCULUS

At the end of this course, the student will be able to present, solve and interpret problems that include the concepts of trajectory, speed vectors, acceleration, tangents, normal and binormal. The student will use and interpret the concepts of divergent and rotational gradients, as well as their inter-

actions. Also, presenting, solving and interpreting problems that include linear and area integrals, as well as interpreting the Green, Stokes and Gauss divergence theorems, and calculating the gradient, divergence and rotation in rectangular, cylindrical and spherical coordinate systems.

SIXTH SEMESTER

INF2011 TECHNOLOGICAL INNOVATION

At the end of this course, the student will be able to identify and apply basic concepts and methods for the development of technological innovations, especially through work in multi-disciplinary teams.

LIM2061 SOLID MECHANICS I

At the end of this course, the student will be able to carry out the analysis of solid bodies subject to static charges, in order to understand, explain and predict their behavior. The student will also be able to calculate and interpret normal, cutting, linear-static distortion, combined, principal and column efforts.

LIM3121 MECHANISMS LAB

At the end of this course, the student will be able to: identify the basic elements that make up a mechanism; identify kinematic pairs and determine their degree of movement; analyze the movement of a mechanism; verify the stability and reliability of a mechanism through prototypes; simulate the movements of a mechanism through the use of Creo (Pro/Engineer); and simulate the results of a mechanism search that solve proposed movements.

LMT3031 MANUFACTURING SYSTEMS

At the end of this course, the student will be able to apply, define and classify the most suitable manufacturing processes to integrate in a production line.

LMT3041 INSTRUMENTATION AND SIGNAL PROCESSING

At the end of this course, the student will be able to apply the basic concepts of measurement of physical signals, and distinguish the main functions that measurement instruments carry out.

LMT3051 THERMAL FLUIDS

At the end of this course, the student will be able to identify the principles of hydrostatics, analyze the variation of pressure in static fluid, apply the equations of hydrodynamics in an integral manner, analyze fluids through tubes, review the flow around a submerged body and analyze the forces of drag and lift.

LMT3061 INSTRUMENTATION AND SIGNAL PROCESSING LAB

At the end of this course, the student will be able to identify, know and test elements and techniques to carry out applications in mechatronic systems.

SEVENTH SEMESTER

LAD4071 PROJECT AND PROGRAM MANAGEMENT

At the end of this course, the student will be able to apply techniques and tools for project administration through a complete and coherent methodology, valid for any kind of project, including organizational, human and technical features.

LIR4021 AUTOMOTIVE NETWORKS

At the end of this course, the student will be able to analyze, manage and understand the working of a data network applied to automotive distribution systems.

LIR4031 CONTROL SYSTEMS

At the end of this course, the student will be able to model, analyze, simulate and integrate physical control systems by applying electronic and mechatronic systems.

LIR4041 ELECTRICAL MACHINES

At the end of this course, the student will be able to select, operate and give maintenance to electric machines such as transformers, motors, and generators for different applications.

LMT4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to put into practice the knowledge acquired during his/her studies to diagnose, plan, evaluate and take part in the solution of problems and situations inherent to his/her profession, establishing a link between theory and practice, between the University and society, and between his/her aspirations and the needs of his/her environment.

LMT4021 MECHATRONIC SYSTEMS LAB

At the end of this course, the student will be able to apply theoretical knowledge to manufacture applications of electrical machines handles by control systems.

TMT4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application issues.

EIGHTH SEMESTER

LIR4071 INDUSTRIAL AUTOMATION

At the end of this course, the student will be able to design, analyze, identify and integrate practical solutions to manage automation systems.

LIR4081 POWER ELECTRONICS

At the end of this course, the student will be able to design, build and test power electronic systems in different automation, domotics and robotics applications.

LMT4031 AUTOMATION LAB

At the end of this course, the student will be able to design, analyze and implement applications that use programmable logic controllers (PLCs) and oleo-pneumatic elements in industrial automation.

LMT4041 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to put into practice the knowledge acquired during his/her studies to diagnose, plan, evaluate and take part in the solution of problems and situations inherent to his/her profession, establishing a link between theory and practice, and between the university and society.

LMT4051 ROBOTICS

At the end of this course, the student will be able to analyze the kinetic and dynamic aspects of programming a robot manipulator.

TMT4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application issues.

TMT4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply the acquired knowledge in his/her studies to tackle the application issues.



ACADEMIC PROGRAMS

**SCHOOL OF BUSINESS
AND ECONOMICS**

BANKING AND INVESTMENTS

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LBN1011 INTRODUCTION TO FINANCIAL ANALYSIS (*)

At the end of this course, the student will be able to master the bases of financial analysis and to apply adequately the most basic evaluation models.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

LEC1011 INTRODUCTION TO ECONOMICS (*)

At the end of this course, the student will be able to understand the essential traits of relevant economic problems and to use the most basic techniques of economic analysis to propose solutions.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

LBN1021 CAPITAL BUDGET ANALYSIS

At the end of this course, the student will be able to identify the most important decisions in the area of corporate finance in general and in particular those concerning capital budget. The student will learn to draft, propose and justify investment projects.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LEC1031 MACROECONOMICS I

At the end of this course, the student will be able to use a simple macroeconomic model to understand how to determine activity levels in a closed economy in the short and long term.

LEC1021 MICROECONOMICS I

At the end of this course, the student will be able to use economic market modeling techniques through graphical analysis and to master the implications of different market structures on economic efficiency, as well as the policies that may eventually correct distortions. The student will develop economic intuition and understand market function as a result of individual decisions of consumers and businesses, solving microeconomic problems from a geometric standpoint.

THIRD SEMESTER

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

LFP1011 FINANCIAL ACCOUNTING (*)

At the end of this course, the student will be able to identify and analyze different types of organizations and diverse financial statements relevant and useful for adequate decision making. The student will also learn to identify and define an exact outlook of accounting in business and its importance to control its results.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LEC2021 MACROECONOMICS II

At the end of this course, the student will be able to use a simple macroeconomic model to understand how activity levels in an open economy are determined in the short term, how to calculate economic growth rate in the long term and how to use basic tools of intertemporal analysis.

LEC2011 MICROECONOMICS II

At the end of this course, the student will be able to reason abstractly and mathematically to solve a company's advanced problems in a competitive market. With these tools the student will pose and solve problems from an integral point of view and according to changes in one of the variables. At the same time, the student will know how to handle different production functions and anticipate production decisions of a company in a competitive environment.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

FOURTH SEMESTER**LBN2011 INVESTMENT ANALYSIS I**

At the end of this course, the student will be able to understand basic strategies to assess investments in general and, in particular, financial ones. The student will learn to prepare, justify and defend investment proposals in fixed income instruments.

LBN2021 CAPITAL STRUCTURE ANALYSIS

At the end of this course, the student will be able to discern the most important decisions in corporate finance in general and, in particular, those concerning capital structures and dividend policies, understanding the delicate relationship between a company's capital structure and the possibility of bankruptcy. At the same time, the student prepares, presents and justifies different alternatives for financing investment projects.

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LFP1041 INTERMEDIATE ACCOUNTING I

At the end of this course, the student will be able to interpret and apply basic accounting theory according to NIIF, IMCP, FASB, and IASB, and to master theoretical and practical knowledge that supports the financial reasoning, and gives validity to the application of rules and norms in different element of financial information, in order to solve concrete problems in economic entities.

EDSO011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the

deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

MAT2071 ADVANCED PROBABILITY AND STATISTICS

At the end of this course, the student will be able to apply statistical methods to infer population parameters in problems related to their field of study.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

FIFTH SEMESTER**LBN3011 INVESTMENT ANALYSIS II**

At the end of this course, the student will be able to understand basic strategies for investment valuation in general, particularly those of a financial nature. The student will be able to correctly prepare, justify, and defend investment portfolio proposals.

LBN3021 COMMERCIAL BANKS

At the end of this course, the student will be able to master the main strategies used by different financial intermediaries in general, and commercial banks in particular, to manage assets and liabilities. At the same time, the student understands fundamental regulatory elements of commercial banks.

LFP2011 INTERMEDIATE ACCOUNTING II

At the end of this course, the student will be able to analyze and use the conceptual framework and the practice of capital and liabilities through the identification of principles, evaluation rules, procedures and norms to present the Balance Sheet and the state of flux in the financial situation. The student will be able to point out the quality and guideline evaluation characteristics of cash and working capital evaluation needed to support the accounting profession in Mexico and in other countries.

LDE3031 CORPORATE LAW

At the end of this course, the student will be able to establish in writing, a strategic plan for the prevention and handling of risk in a particular company and, in its case, to propose methods for its legal defense.

LEC3011 ECONOMETRICS I

At the end of this course, the student will be able to use mathematical and statistical tools to prove hypotheses and analyze quantitatively economic relationships. The knowledge acquired in this course will allow the student to propose econometric models to be able to analyze the relationships among economic variables.

TBN4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply new analytical and/or quantitative skills in the field of finance, business or social sciences.

SIXTH SEMESTER**CON1011 COST ACCOUNTING**

At the end of this course, the student will be able to apply and master the way to determine the production costs and to design the cost system of a company, understanding that costs represent an important element in operating and managing a company.

LEC3051 ECONOMETRICS II

At the end of this course, the student will be able to develop statistical models of time series to discover the behavior of variable data to make forecasts. Statistical tools will allow the student to model variance behavior in a time series and to propose models to analyze the relationships between economic variables through time.

LEC3061 MEXICAN ECONOMICS

At the end of this course, the student will be able to build a bridge between economic theories studied in other courses and Mexican economic reality, developing an ample vision of present day Mexican economic problems, from a retrospective long term analysis.

LFP3031 TAX LEGISLATION I

At the end of this course, the student will be able to acknowledge the importance of tax legislation within tax administration and businesses, describing the legal background of some tax provisions such as Código Fiscal de la Federación and its regulation, Ley del Servicio de Administración Tributaria, Ley Orgánica del Tribunal Federal de Justicia Fiscal y Administrativa, Ley Federal del Procedimiento Contencioso Administrativo, Juicio de Amparo en Materia Fiscal and, in general defense mechanisms against federal, state, and municipal authorities. The student will know fiscal principles and Sistema de Justicia en Línea and the Juicio en la vía Sumaria.

TBN4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply new analytical and/or quantitative skills in the field of finance, business or social sciences.

LDE3011 CREDIT TITLES AND OPERATIONS

At the end of this course, the student will be able to identify requirements that every credit title must contain to be considered sustainable, and to interpret the provisions of the General Title and Credit Operations Law (Ley General de Títulos y Operaciones de Crédito) that apply for that purpose.

SEVENTH SEMESTER**LBN4031 INVESTMENT BANKS**

At the end of this course, the student will be able to understand the function and services rendered by an investment bank, includ-

ing the particulars of their regulatory framework. The student will learn to correctly use valuation methods such as analysis of similar companies and previous transactions, net present value and evaluation of leveraged buyouts (LBOs).

LDE3041 BANKING LAW

At the end of this course, the student will be able to identify and apply norms that regulate the activities of banks and their operations as mediators in credit transactions.

LFP3041 TAX LEGISLATION II

At the end of this course, the student will be able to update the fiscal knowledge acquired in previous courses because of reforms to tax legislation, and analyze, sketch and define comprehensively and comparatively the Ley del Impuesto sobre la Renta, Ley del Impuesto al valor Agregado and Impuesto Empresarial de Tasa Única y el Impuesto a los Depósitos en Efectivo, in order to be successful in other courses dealing with fiscal matters.

LBN4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to develop, explain and present a research paper, including bibliography and data base.

LBN4021 DERIVATIVES

At the end of this course, the student will be able to understand the general characteristics of derivatives and the methods used to evaluate them. The student will propose both hedge and speculative investment strategies.

TBN4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply new analytical and/or quantitative skills in the field of finance, business or social sciences.

EIGHTH SEMESTER**LBN4041 PRIVATE BANKS**

At the end of this course, the student will be able to correctly analyze the risk-yield profile of non-conventional investment alternatives such as, structured and synthetic products, mutual funds, hedge funds, venture capital funds, private investment funds, commodities and real estate.

LEC4061 BEHAVIOR ECONOMICS

At the end of this course, the student will be able to identify different aspects, from a psychological perspective, that intervene in an individual's decision-making process regarding investment and in his/her behavior as a human being. The student will manage and interpret elements that reduce an individual's mistakes.

LBN4061 RESEARCH SEMINAR I

At the end of this course, the student will be able to master financial, economic, mathematical, and accounting concepts required to obtain professional certification as a financial consultant. At the same time, the student uses the required analytical techniques to advise clients in the trading of shares,

bonds, certificates and/or investment company shares. Finally, the student understands the normative and regulatory frameworks as legal elements of the Mexican financial system.

LBN4071 RESEARCH SEMINAR II

At the end of this course, the student will be able to master financial, economic, mathematical and accounting concepts required to obtain professional certification as a financial agent. The student will learn to use analysis techniques required to advise clients on trading actions, bonds, investment companies' certificates and shares. Finally, the student understands the regulatory framework as well as the legal elements of the Mexican financial system.

LBN4081 RESEARCH SEMINAR III

At the end of this course, the student will be able to master financial, economic, mathematical and accounting concepts required to obtain professional certification as a financial agent. The student will learn to use analysis techniques required to advise clients on trading actions, bonds, investment companies' certificates and shares. Finally, the student understands the regulatory framework as well as the legal elements of the Mexican financial system.

LBN4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to prepare and present a research paper, including managing data, analyzing results and drawing conclusions.

BUSINESS ADMINISTRATION

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LMK1011 MARKETING FUNDAMENTALS (*)

At the end of this course, the student will be able to identify the principles and key elements of marketing (product, price, placement and promotion) to develop a market strategy to create value for customers.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1021 MATH I

At the end of this course, the student will be able to use basic algebraic concepts, setting up and solving equations that represent problems involving percentages and interest rates. Also, the student will use trigonometric tools to solve geometric problems.

LAD1011 PERSPECTIVES IN ADMINISTRATION

At the end of this course, the student will be able to analyze theories of administrative process, defining their advantages and disadvantages, and studying theoretical alternatives to remedy deficiencies. Also, he/she will be able to recognize the impact of business decisions regarding social responsibility and internationalization strategies.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

LMK1021 CONSUMER BEHAVIOR

At the end of this course, the student will be able to understand the behavior of consumers in marketing, understanding the formation and changes of attitude in consumers to create successful market segmentations, and to identify the influential factors in shopping behavior. This information will allow the student to create consumer purchasing process models.

LAD1021 HUMAN BEHAVIOR IN ORGANIZATIONS

At the end of this course, the student will be able to develop

and foster the understanding of people in organizations, to gain an assertive posture in interactions, thus contributing to organizational objectives.

LFP1011 FINANCIAL ACCOUNTING (*)

At the end of this course, the student will be able to identify and analyze different types of organizations and diverse financial statements relevant and useful for adequate decision making. The student will also learn to identify and define an exact outlook of accounting in business and its importance to control its results.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1031 MATH II

At the end of this course, the student will be able to use basic concepts of differential and integral calculus to solve real-life economic, social and management problems, thus depicting the behavior of consumers and producers surplus to solve problems of a corporate nature.

ECO1011 INTRODUCTION TO MICROECONOMICS

At the end of this course, the student will be able to handle the basic elements of economic analysis, with emphasis on their use as decision makers for consumers and companies.

THIRD SEMESTER

MAT2011 STATISTICAL ANALYSIS

At the end of this course, the student will be able to apply the basic descriptive statistical tools in diverse practical problems, calculating elemental probabilities, identifying and correctly applying the different methods, and using the main distributions and confidence intervals in everyday subjects.

LAD2011 CORPORATE COMMUNICATION AND IDENTITY

At the end of this course, the student will be able to identify the communication process inside organizations, designing and acquiring tools to implement an internal communication plan. The student is also able to apply such tools and monitor the proposed plan.

CON1011 COST ACCOUNTING

At the end of this course, the student will be able to apply and master the way to determine the production costs and to design the cost system of a company, understanding that costs

represent an important element in operating and managing a company.

LAD2021 STRATEGIC MANAGEMENT OF HUMAN RESOURCES

At the end of this course, the student will be able to analyze and apply the most important concepts and functions of strategic management of human resources within organizations. The student will be able to develop skills to solve human resource problems.

LEXO131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

FOURTH SEMESTER

CON2011 FINANCIAL ADMINISTRATION

At the end of this course, the student will be able to analyze, identify and debate about the role of financial administrators in companies, different forms of operation, basic tools of financial analysis and planning, financial evaluation through the analysis of financial reasoning and cash flow, structure of assets and financial structure. In the same way, he/she can analyze determinants for asset evaluation, the value of money through time, risk and profit analysis and the characteristics and forms to evaluate fixed assets and common shares in national and international markets.

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAD2051 ENTREPRENEURIAL CULTURE

At the end of this course, the student will be able to formulate, plan, and implement a new business initiative, using methods and tools that allow him/her to approach it with an entrepreneurial focus.

LMK2061 MARKET RESEARCH

At the end of this course, the student will be able to identify the importance of market research as a fundamental marketing information tool in companies. The student will know the fundamental guidelines to design market research and measurement methods that allow him/her to study the problems related with marketing goods and services. Also, the student will carry out a quantitative market research to provide rele-

vant data regarding a product or service, to reduce uncertainty in a market's decision-making.

MAT2081 FORECASTING

At the end of this course, the student will be able to understand forecasting models through the use of Residual Analysis, identifying and correctly applying the stationary, tendency, seasonal and non-seasonal regression methods for stationary series, thus constructing forecasting prediction intervals.

ECO1021 INTRODUCTION TO MACROECONOMICS

At the end of this course, the student will be able to identify, define, and use main variables of economic analysis in the short and long term.

LAD2041 INFORMATION TECHNOLOGY IN BUSINESS

At the end of this course, the student will be able to value the strategic importance of information technologies within organizations; and to develop skills to use them as support information systems, decision making, and competitive advantage of organizations.

FIFTH SEMESTER

LAD3031 BUSINESS CREATION

At the end of this course, the student will be able to identify steps and requirements to open a new business, fostering his/her entrepreneurial potential through the development of skills that help him/her to conceive, identify, assess and select viable business opportunities, creating individual and corporate innovative proposals, and handling ambiguity and uncertainty, and seeking to generate assets with social responsibility.

LDE3031 CORPORATE LAW

At the end of this course, the student will be able to establish in writing, a strategic plan for the prevention and handling of risk in a particular company and, in its case, to propose methods for its legal defense.

LAD3011 E-BUSINESS

At the end of this course, the student will be able to identify key elements and technologies in electronic businesses applying Internet technologies to the business processes.

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

CON3031 INVESTMENT PROJECT EVALUATION

At the end of this course, the student will be able to identify,

analyze, and classify tools and methods to evaluate investment alternatives in projects that increase the profitability and diminish risk of businesses. Also, the student is also able to develop evaluation methods, considering market, technical, administrative, legal, financial, economic and social factors, stressing financial and economic consideration.

LAD3021 DECISION MODELS

At the end of this course, the student will be able to identify the linear programming model necessary for the solution of industrial and business problems.

SIXTH SEMESTER

LAD3051 OPERATIONS MANAGEMENT

At the end of this course, the student will be able to apply theoretical and practical knowledge related to different areas of operations management, and being capable to apply such knowledge to the solution of problems in a managerial context.

LAD3061 KNOWLEDGE MANAGEMENT

At the end of this course, the student will be able to value the strategic importance of knowledge within an organization and to develop abilities to create, capture, codify, use and store such knowledge.

LMK2021 INTEGRATED MARKETING COMMUNICATION

At the end of this course, the student will be able to understand the importance of communicating to customers the products or services that are offered, through different tools of integrated marketing communication. The student will apply the knowledge and tools that allow him/her to design integrated communication campaigns.

LNI3011 GLOBAL BUSINESS ENVIRONMENT

At the end of this course, the student will be able to identify the basic globalization theories, as well as international companies' operations. The student will be able to identify and analyze uncontrollable variables that have a significant impact on international businesses, and their decision-making and strategic action. The student will be able to propose strategies and solutions that are compatible to the company's situation withing a global business context.

LAD3041 LEADERSHIP AND TEAM MANAGEMENT

At the end of this course, the student will be able to identify in depth leadership styles most appropriate to the type of organization and to develop necessary skills to properly carry out positions in human resources, in order to create and manage working teams that solve problems related to human resources.

LAD3071 BUSINESS PLAN

At the end of this course, the student will be able to create a business plan to create a business, communicating tactics and strategies to managers, partners and investors, and estab-

lishing goals and precise objectives in a business unit within a given period, adding details for their operation and follow up.

SEVENTH SEMESTER

LAD4031 SUPPLY CHAIN MANAGEMENT

At the end of this course, the student will be able to design a strategic supply chain that is aligned to the organization's corporate strategy.

LAD4021 CHANGE MANAGEMENT

At the end of this course, the student will be able to master change and organizational development and to have the necessary tools to effectively manage social changes that occur in organizational systems and subsystems.

LDE1031 LABOR LAW (*)

At the end of this course, the student will be able to apply to concrete cases the rights and obligations that workers and employers have to each other. The student will analyze strike negotiations from worker's and employer's standpoints, as well as identify and solve legal problems linked to norms and regulations of worker-employer relationships, supported by doctrine and jurisprudence.

LAD4041 STRATEGY IN BUSINESS

At the end of this course, the student will be able to think strategically about a company, its current position, long term vision, resources and competitive capability, strategic focus, and opportunities to achieve sustained competitive advantages

LAD4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to integrate the knowledge acquired through his/her academic studies to develop solution proposals for business problems. The student is also able to explore interesting phenomena present in business environments.

TAD4011 ELECTIVE COURSE I

At the end of this course, the student will be able to identify and analyze the selected entrepreneurship topics, focusing on their use in a business setting, with the aim of being up-to-date with the opportunities and impacts of the analyzed topics for career business administrators.

EIGHTH SEMESTER

LAD4071 PROJECT AND PROGRAM MANAGEMENT

At the end of this course, the student will be able to apply techniques and tools for project administration through a complete and coherent methodology, valid for any kind of project, including organizational, human and technical features.

LAD4051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply academic knowledge regarding business administration for the diagnostic and solution of problems in an organization, with

a critical and creative attitude, objectivity, ethics, and social responsibility.

LAD4081 SOCIAL RESPONSIBILITY IN BUSINESS

At the end of this course, the student will be able to: analyze a company's function as creator of shared value, both economic and social, define initiatives and social programs with impact on business and society, and to acquire the knowledge and tools to present a report and social balance for the company.

LAD4061 SIMULATION IN BUSINESS

At the end of this course, and based on his/her experiences in simulation and business simulators, the student will be able to create models that facilitate strategic problem analysis, based on their modeling and simulation.

TAD4021 ELECTIVE COURSE II

At the end of this course, the student will be able to identify and analyze the selected international business topics, focusing on their use in a business setting, with the aim of being up-to-date with the opportunities and impacts of the analyzed topics for career business administrators.

TAD4031 ELECTIVE COURSE III

At the end of this course, the student will be able to identify and analyze the selected marketing topics, focusing on their use in a business setting, with the aim of being up-to-date with the opportunities and impacts of the analyzed topics for career business administrators.

CULINARY ARTS

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LHR1011 INTRODUCTION TO HOTELS AND RESTAURANTS

At the end of this course, the student will be able to identify the elements of the hospitality industry, as well as those most relevant for the operation and management of hospitality and food services. The student will find out employment and development opportunities that this industry has to offer.

LCU1011 INTRODUCTION TO CULINARY ARTS

At the end of this course, the student will be able to master basic culinary techniques to prepare recipes, to use culinary language, to master the use of cooking equipment, to identify basic equipment and ingredients, requisites and conversions in culinary mathematics for the correct application of criteria inside a kitchen.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHR1031 HYGIENIC HANDLING OF FOODSTUFFS

At the end of this course, the student will be able to correctly use hygiene principles for handling foodstuffs in order to prevent contamination and disease transmission. This will include purchases and storage, preparation and service, as well as selection of different types of foodstuffs, and setting conditions to properly receive and store foodstuffs.

LHR1021 PROTOCOL AND ETIQUETTE

At the end of this course, the student will be able to identify the dynamics of protocol rules in a historic, legal and social context.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

LCU1021 GASTRONOMIC CULTURE OF MEXICO AND THE WORLD

At the end of this course, the student will be able to identify different periods and the evolution of gastronomy through

history, as well as each country's contributions to gastronomy.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1021 MATH I

At the end of this course, the student will be able to use basic algebraic concepts, setting up and solving equations that represent problems involving percentages and interest rates. Also, the student will use trigonometric tools to solve geometric problems.

LCU1041 BASIC BREAD MAKING

At the end of this course, the student will be able to select from raw materials and equipment to freshly baked bread, to master bread making techniques for bread production with high quality standards.

ADM1011 INTRODUCTION TO ADMINISTRATION (*)

At the end of this course, the student will be able to describe the nature of administration, its characteristics and dynamic process, and to understand the essence of administration in the working areas of businesses.

LCU1051 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to apply his/her knowledge to participate in inter-disciplinary teams to perform specific tasks in different areas of culinary arts and to adapt to a new working environment.

LCU1031 CULINARY TECHNIQUES

At the end of this course, the student will be able to describe existing cooking methods in order to use them in products according to their characteristics, temperature, and cooking times.

THIRD SEMESTER

LFPI011 FINANCIAL ACCOUNTING (*)

At the end of this course, the student will be able to identify and analyze different types of organizations and diverse financial statements relevant and useful for adequate decision making. The student will also learn to identify and define an exact outlook of accounting in business and its importance to control its results.

NUT1011 INTRODUCTION TO NUTRITION

At the end of this course, the student will be able to analyze and compare the functions and requirements of nutrients, as well as identifying the foods they come from to plan a nutri-

tional diet to solve health issues, thus complementing diets with menu plans.

LCU2011 IDENTIFICATION AND USE OF MEATS

At the end of this course, the student will be able to identify different animals and breeds, as well as meat cuts, processing, handling, good manufacture practices, organoleptic quality and cooking of different animals.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LCU2021 BASIC CONFECTIONARY AND PASTRY MAKING

At the end of this course, the student will be able to describe and analyze components and processes used in confectionary and pastry making, as well as different criteria for their production based on type of ingredients, country of origin, colors and textures among others.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

FOURTH SEMESTER

LHR2031 RESTAURANT ADMINISTRATION II

At the end of this course, the student will be able to purchase foodstuff, identify their markets and ways to serve them, organize restaurant personnel and their activities, select suppliers and outline specifications for food purchases, as well as rate the quality of food service and products in the restaurant.

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LCU2061 SENSORIAL EVALUATION OF FOOD

At the end of this course, the student will be able to understand the physiological elements of flavor in food, the mechanisms that such flavor trigger and the most used tests to define and quantify the sensorial characteristics of food.

LCU2031 IDENTIFICATION OF POULTRY, FISH AND SEAFOOD

At the end of this course, the student will be able to process through a wide variety of cooking methods fowl, fish and seafood, as well as describe their different cuts, pieces and articulations. The student will identify the ample variety of available products and their specifications and apply diverse cutting techniques.

LCU2041 INTRODUCTION TO ENOLOGY

At the end of this course, the student will be able to identify the wine making process from field to market, as well as the storage, service temperature, tastings and basic options for their pairing with food in general.

LEX2021 FOREIGN LANGUAGE IV

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LCU2051 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply his/her knowledge to participate in inter-disciplinary teams to perform specific tasks in different areas of culinary arts and to adapt to a new working environment.

FIFTH SEMESTER

LCU3011 FOOD COMPOSITION

At the end of this course, the student will be able to correctly identify and apply principles of food chemistry to understand what happens in the different processes they undergo and the changes that occur in their molecules to yield different textures, smells and flavors that constitute pleasant sensorial characteristics to a diner.

CON3011 COST ACCOUNTING OF HOTELS AND RESTAURANTS

At the end of this course, the student will be able to apply and master the way to determine the production costs of food and drinks in the hotel and restaurant sector.

LDE1031 LABOR LAW (*)

At the end of this course, the student will be able to apply to concrete cases the rights and obligations that workers and employers have to each other. The student will analyze strike negotiations from worker's and employer's standpoints, as well as identify and solve legal problems linked to norms and regulations of worker-employer relationships, supported by doctrine and jurisprudence.

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LEX3011 FOREIGN LANGUAGE V

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LCU3021 ROOM SERVICE

At the end of this course, the student will be able to know and master techniques of room service for all kinds of restaurants and bars.

SIXTH SEMESTER**LHR3011 BEVERAGE SERVICE MANAGEMENT**

At the end of this course, the student will be able to make decisions in managing, preparing and serving drinks in restaurant and hotel areas.

CON3021 FINANCIAL MANAGEMENT OF HOTELS AND RESTAURANTS

At the end of this course, the student will be able to analyze, identify, and debate about the role of financial administrator in the hotel and restaurant sector. Also, he/she will be able to understand its operation, the basic tools of financial analysis and planning, to evaluate financial outcomes through financial reasoning and cash flow, taking into consideration the structure of assets and the financial structure.

LCU3041 CATERING

At the end of this course, the student will be able to design a banquet for up to 100 guests, including cost and menu, as well as preparing different dishes that are normally offered at these events.

LCU3031 SUSTAINABLE GASTRONOMY

At the end of this course, the student will be able to identify concepts for sustainable gastronomy and the best way to adapt it in a culinary offer.

LHR2021 MARKETING FOR HOTELS AND RESTAURANTS

At the end of this course, the student will be able to define basic terminology of marketing and discuss its direct applications in hotels and restaurants with the purpose of preparing a marketing plan.

LCU3051 PROFESSIONAL PRACTICES III

At the end of this course, the student will be able to apply his/her knowledge to participate in inter-disciplinary teams to perform specific tasks in different areas of culinary arts and to adapt to a new working environment.

TCU4011 ELECTIVE COURSE I

At the end of this course, the student will be able to understand and master the techniques and use of specific tools for carving fruits, vegetables and ice, in relation to an aesthetic preparation of food according to the type of service required.

SEVENTH SEMESTER**LCU4011 FRENCH CUISINE**

At the end of this course, the student will be able to use different products, equipment, cooking techniques and traditions that are part of French gastronomy to prepare the most

representative dishes of each region as well as recipes of contemporary French cuisine.

LCU4021 MEXICAN CUISINE

At the end of this course, the student will be able to identify the bases of Mexican cuisine, cooking techniques, pre-Hispanic ingredients throughout the country; how it was fused and to learn why it is one of the most important cuisines in the world.

LHR3041 NEW APPROACHES TO HOTEL AND RESTAURANT BUSINESSES

At the end of this course, the student will be able to identify and analyze frequent business opportunities in the hospitality industry. The student will design a conceptual and operational framework related to different business perspectives, and analyze and debate related problems in order to offer solutions, as well as to determine the best business alternative for particular situations.

LCU4041 PROFESSIONAL PRACTICES IV

At the end of this course, the student will be able to apply his/her knowledge to participate in inter-disciplinary teams to perform specific tasks in different areas of culinary arts and to adapt to a new working environment.

LCU4031 SOMMELIER

At the end of this course, the student will be able to describe the function of a sommelier in and outside a restaurant and the training and knowledge he/she must have.

EIGHTH SEMESTER**LCU4071 ASIAN CUISINE**

At the end of this course, the student will be able to identify different trends in Asian cuisine, as well as its products, history, handling and use.

LCU4051 SPANISH CUISINE

At the end of this course, the student will be able to use different products, equipment, cooking techniques and traditions that are part of Spanish gastronomy in order to prepare the most representative dishes of each region.

LCU4061 ITALIAN CUISINE

At the end of this course, the student will be able to use different products, equipment, cooking techniques and traditions that are part of Italian gastronomy in order to prepare the most representative dishes of each region.

LCU4081 ADVANCED CONFECTIONARY AND PASTRY MAKING

At the end of this course, the student will be able to use advanced techniques for confectionary and pastry making, as well as to prepare classic desserts of international cuisine.

TCU4021 ELECTIVE COURSE II

At the end of this course, the student will be able to describe

and apply conventional Mexican cuisine, its new tendencies, as well as recovery of different utensils, ingredients and recipes with diverse presentations. Also, he/she will be able to continue with the history of Mexican cuisine from the Independence era to modern times.

TCU4031 ELECTIVE COURSE III

At the end of this course, the student will be able to identify and apply diverse techniques and tendencies in culinary preparation in order to create contemporary dishes.

ECONOMICS

FIRST SEMESTER

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LBN1011 INTRODUCTION TO FINANCIAL ANALYSIS (*)

At the end of this course, the student will be able to master the bases of financial analysis and to apply adequately the most basic evaluation models.

LEC1011 INTRODUCTION TO ECONOMICS (*)

At the end of this course, the student will be able to understand the essential traits of relevant economic problems and to use the most basic techniques of economic analysis to propose solutions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1041 PRECALCULUS

At the end of this course, the student will be able to demonstrate that he/she knows the elemental math techniques that allow him/her to solve problems related to his/her field of study, using sets and algebraic concepts to draw function graphs related to actual problems.

SECOND SEMESTER

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LBN1021 CAPITAL BUDGET ANALYSIS

At the end of this course, the student will be able to identify the most important decisions in the area of corporate finance in general and in particular those concerning capital budget. The student will learn to draft, propose and justify investment projects.

LEC1021 MICROECONOMICS I

At the end of this course, the student will be able to use eco-

nommic market modeling techniques through graphical analysis and to master the implications of different market structures on economic efficiency, as well as the policies that may eventually correct distortions. The student will develop economic intuition and understand market function as a result of individual decisions of consumers and businesses, solving microeconomic problems from a geometric standpoint.

LEC1031 MACROECONOMICS I

At the end of this course, the student will be able to use a simple macroeconomic model to understand how to determine activity levels in a closed economy in the short and long term.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1051 LINEAR ALGEBRA

At the end of this course, the student will be able to solve linear equations using MATLAB, solve matrix equations, angle, distance, intersection, relative position problems. Also, the student will know the properties of determinants, and will be able to recognize and verify the structure of vectorial spaces, constructing a matrix for linear transformation.

MAT1061 CALCULUS I

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems.

THIRD SEMESTER

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LEC2011 MICROECONOMICS II

At the end of this course, the student will be able to reason abstractly and mathematically to solve a company's advanced problems in a competitive market. With these tools the student will pose and solve problems from an integral point of view and according to changes in one of the variables. At the same time, the student will know how to handle different production functions and anticipate production decisions of a company in a competitive environment.

LEC2021 MACROECONOMICS II

At the end of this course, the student will be able to use a simple macroeconomic model to understand how activity levels in an open economy are determined in the short term, how to calculate economic growth rate in the long term and how to use basic tools of intertemporal analysis.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1071 CALCULUS II

At the end of this course, the student will be able to analyze situations and real-life problems, and apply differential and integral calculus to these problems, applying the results to decision-making.

MAT2061 PROBABILITY AND STATISTICS

At the end of this course, the student will be able to understand basic probability and statistics concepts, analyzing graphically and numerically the distribution of a data set and using different discrete and continuous models to calculate the probability of real-life phenomena, and apply statistical methodologies to decision-making in uncertain phenomena.

FOURTH SEMESTER**AHCO011 ART, HISTORY AND CULTURE**

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LBN2011 INVESTMENT ANALYSIS I

At the end of this course, the student will be able to understand basic strategies to assess investments in general and, in particular, financial ones. The student will learn to prepare, justify and defend investment proposals in fixed income instruments.

LEC2031 PUBLIC FINANCE

At the end of this course, the student will be able to use the fundamentals of welfare theory that justify public sector intervention in the economy. The student will handle the fundamentals of tax theory and the influence of diverse programs of government spending on the economic welfare of the people.

LEC2041 GAME THEORY

At the end of this course, the student will be able to use analytical abilities to formalize, through game theory techniques, any type of socioeconomic problem and in this way, achieve a better understanding of it.

LEC2051 INTERNATIONAL TRADE

At the end of this course, the student will be able to analyze, through an economic theoretical perspective, trade patterns of countries, and to understand the weight that economic policies exert over those patterns.

MAT2051 ORDINARY DIFFERENTIAL EQUATIONS

At the end of this course, the student will be able to solve first-order ordinary equations and non-homogeneous second-order differential equations using the method of undeter-

mined coefficients, and power series. The student will be able to setup and solve problems involving exponential growth, cooling, orthogonal trajectory, mechanical mass-elasticity, circuits and mixture modeling and estimations. Also, the student will learn to obtain the Laplace operator of a function by using the definition and tables, thus solving initial value problems for linear and integer-differential equations.

MAT2071 ADVANCED PROBABILITY AND STATISTICS

At the end of this course, the student will be able to apply statistical methods to infer population parameters in problems related to their field of study.

FIFTH SEMESTER**EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT**

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LBN3011 INVESTMENT ANALYSIS II

At the end of this course, the student will be able to understand basic strategies for investment valuation in general, particularly those of a financial nature. The student will be able to correctly prepare, justify, and defend investment portfolio proposals.

LEC3011 ECONOMETRICS I

At the end of this course, the student will be able to use mathematical and statistical tools to prove hypotheses and analyze quantitatively economic relationships. The knowledge acquired in this course will allow the student to propose econometric models to be able to analyze the relationships among economic variables.

LEC3031 MICROECONOMICS III

At the end of this course, the student will be able to use formal analytical tools from consumer theory to propose and solve a problem from an integral perspective, as well as to present alternative utility models. The student will use abstract reasoning based on economic tools and interpret consumer behavior.

LEC3041 MACROECONOMICS III

At the end of this course, the student will be able to use advanced mathematical models to understand how an open economy works in the medium and long term, under different mobility combinations of international capital and exchange rate systems.

TEC4011 ELECTIVE COURSE I

At the end of this course, the student will be able to apply new analytical and/or quantitative skills in the field of economics, business or social sciences.

SIXTH SEMESTER**LEC3051 ECONOMETRICS II**

At the end of this course, the student will be able to develop statistical models of time series to discover the behavior of variable data to make forecasts. Statistical tools will allow the student to model variance behavior in a time series and to propose models to analyze the relationships between economic variables through time.

LEC3061 MEXICAN ECONOMICS

At the end of this course, the student will be able to build a bridge between economic theories studied in other courses and Mexican economic reality, developing an ample vision of present day Mexican economic problems, from a retrospective long term analysis.

LEC3071 INDUSTRIAL ORGANIZATION

At the end of this course, the student will be able to analyze market interactions in companies. The student will know how to propose different strategies for a company in markets with a limited number of competitors, and to analyze consequences in the short and long term. At the same time, the student will know how to determine different efficiency levels in markets with a limited number of competitors.

LEC3091 ECONOMIC GROWTH

At the end of this course, the student will be able to use mathematical models to understand how to determine the economic growth rate of a country in the long term, according to the neoclassical theory with recent approaches. The student will also use special models for emerging economies.

LEC3101 HISTORY OF ECONOMIC THOUGHT

At the end of this course, the student will be able to systematically understand and analyze different economic ideas, theories, and doctrines that have emerged throughout economic history.

TEC4021 ELECTIVE COURSE II

At the end of this course, the student will be able to apply new analytical and/or quantitative skills in the field of economics, business or social sciences.

SEVENTH SEMESTER**LEC4011 ECONOMETRICS III**

At the end of this course, the student will be able to design a simultaneous equation system and develop statistical models to describe the probability of an event. The student will model behaviors and aggregations according to different variables, and propose models to analyze the relationships between economic variables through time.

LEC4021 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to plan, develop, and present a scientific research paper, including a bibliography and database development.

LEC4031 FINANCIAL ECONOMICS SEMINAR

At the end of this course, the student will be able to identify different players in financial markets, relating them to the socioeconomic environment of users. The student will know how to plan and develop a critical analysis framework for the interaction of different intermediaries. He/She will interpret the cause of low financial inclusion and know the strategies used by individuals in need of additional resources. At the same time, the student will propose financial inclusion strategies and policies geared toward vulnerable socioeconomic classes.

LEC4041 ECONOMIC HISTORY OF MEXICO

At the end of this course, the student will be able to critically understand the economic history of Mexico, from the pre-Hispanic era to the 1910 revolution.

LEC4051 ECONOMIC DEVELOPMENT

At the end of this course, the student will be able to manage different economic theories designed to explain contributing factors, both favorable and unfavorable, to the economic development of nations.

TEC4031 ELECTIVE COURSE III

At the end of this course, the student will be able to apply new analytical and/or quantitative skills in the field of economics, business or social sciences.

EIGHTH SEMESTER**LEC4061 BEHAVIOR ECONOMICS**

At the end of this course, the student will be able to identify different aspects, from a psychological perspective, that intervene in an individual's decision-making process regarding investment and in his/her behavior as a human being. The student will manage and interpret elements that reduce an individual's mistakes.

LEC4071 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to plan, develop and present a scientific research paper, up to the stage of data management, analysis of results and conclusions.

LEC4081 ECONOMIC ANALYSIS SEMINAR

At the end of this course, the student will be able to understand the processes of price formation and income generation associated to peculiar activities and phenomena (agricultural, regional, environmental, labor and education, among others) as well as the role that this activity plays in the economic development of a society.

LEC4091 INSTITUTIONAL ECONOMICS

At the end of this course, the student will be able to under-

stand the influence of institutional, sociological, and cultural frameworks have on the performance of any economy. The student will identify different ways economic performance influences the nature of its institutional, sociological and cultural framework.

LEC4101 ECONOMIC POLICY

At the end of this course, the student will be able to analyze cause and effect of monetary and fiscal policy actions in open and closed economies, in the short and long term, with the help of mathematical models.

LEC4111 APPLIED MICROECONOMICS

At the end of this course, the student will be able to propose a project and develop its main elements with a critical perspective. The student will apply tools used in different areas to evaluate a project, according to its benefits, and use his/her knowledge in special areas of economics in order to acquire techniques to evaluate private and public projects with the help of appropriate methodologies in each case.

FINANCIAL STRATEGIES AND PUBLIC ACCOUNTING

FIRST SEMESTER

LFP1011 FINANCIAL ACCOUNTING (*)

At the end of this course, the student will be able to identify and analyze different types of organizations and diverse financial statements relevant and useful for adequate decision making. The student will also learn to identify and define an exact outlook of accounting in business and its importance to control its results.

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1021 MATH I

At the end of this course, the student will be able to use basic algebraic concepts, setting up and solving equations that represent problems involving percentages and interest rates. Also, the student will use trigonometric tools to solve geometric problems.

LFP1021 FINANCE AND ACCOUNTING PERSPECTIVES

At the end of this course, the student will be able to understand the importance of adjusting to constant change in the development of public finance and accounting which, due to the nature of the profession, demand profound knowledge of their theoretical contents, thus being able to compare, reason and analyze different finance and accounting theories. In the same way, the student will be able to interpret economic factors and the nature of transactions to provide a reasoning method and the development of critical thinking about the validity of rules, principles and specific criteria, as well as to develop honest and ethical attitudes as a professional.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

LFP1051 COST ANALYSIS

At the end of this course, the student will be able to master and calculate cost production, and to design a cost sys-

tem for a company, understanding that costs are one of the most important operations and management components in a company.

LFP1041 INTERMEDIATE ACCOUNTING I

At the end of this course, the student will be able to interpret and apply basic accounting theory according to NIIF, IMCP, FASB, and IASB, and to master theoretical and practical knowledge that supports the financial reasoning, and gives validity to the application of rules and norms in different element of financial information, in order to solve concrete problems in economic entities.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1031 MATH II

At the end of this course, the student will be able to use basic concepts of differential and integral calculus to solve real-life economic, social and management problems, thus depicting the behavior of consumers and producers surplus to solve problems of a corporate nature.

ADM1011 INTRODUCTION TO ADMINISTRATION (*)

At the end of this course, the student will be able to describe the nature of administration, its characteristics and dynamic process, and to understand the essence of administration in the working areas of businesses.

LFP1031 FINANCIAL VALUATION

At the end of this course, the student will know the fundamental concepts of financial valuation, as well as mathematical formulas required and the available functions in Excel and financial calculators to ease their calculation. He/She will also master mathematical fundamentals of financial valuation needed for financial projections, valuations and measurements.

THIRD SEMESTER

MAT2011 STATISTICAL ANALYSIS

At the end of this course, the student will be able to apply the basic descriptive statistical tools in diverse practical problems, calculating elemental probabilities, identifying and correctly applying the different methods, and using the main distributions and confidence intervals in everyday subjects.

LFP2021 MANAGEMENT ANALYSIS

At the end of this course, the student will be able to use costs in planning and control, using different tools for businesses decision-making in the short term.

LFP2011 INTERMEDIATE ACCOUNTING II

At the end of this course, the student will be able to analyze and use the conceptual framework and the practice of capital and liabilities through the identification of principles, evaluation rules, procedures and norms to present the Balance Sheet and the state of flux in the financial situation. The student will be able to point out the quality and guideline evaluation characteristics of cash and working capital evaluation needed to support the accounting profession in Mexico and in other countries.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

ECO1011 INTRODUCTION TO MICROECONOMICS

At the end of this course, the student will be able to handle the basic elements of economic analysis, with emphasis on their use as decision makers for consumers and companies.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

FOURTH SEMESTER**LFP2061 INVESTMENT PORTFOLIO MANAGEMENT**

At the end of this course, the student will be able to use the techniques to create diverse investment portfolio to optimize expected yield parameters versus risk, and to know the importance of correct investment of financial surplus, in individually designed portfolios or through a financial institution.

LFP2041 FINANCIAL ANALYSIS AND PLANNING

At the end of this course, the student will be able to analyze, identify and debate the role of a financial manager in a company and how the latter operates. The student will learn to apply basic tools of financial analysis and planning to evaluate financial performance through the analysis of financial reasons and cash flow, asset structure and financial structure. The student will also be able to understand an integrated budget system, as well as variable and flexible budgets, long term budgets and budget control.

LFP2031 FINANCIAL AND ACCOUNTING APPLICATIONS

At the end of this course, the student will be able to develop projects within and outside the financial and accounting areas to support information processes for management decision making, using computer tools and programs in finance and accounting to support managerial decision-making.

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAD2051 ENTREPRENEURIAL CULTURE

At the end of this course, the student will be able to formulate, plan, and implement a new business initiative, using methods and tools that allow him/her to approach it with an entrepreneurial focus.

MAT2081 FORECASTING

At the end of this course, the student will be able to understand forecasting models through the use of Residual Analysis, identifying and correctly applying the stationary, tendency, seasonal and non-seasonal regression methods for stationary series, thus constructing forecasting prediction intervals.

LFP2051 CORPORATE GOVERNANCE

At the end of this course, the student will be able to identify and sketch the legal order of Mexico as well as legal features of civil and commercial contracts in order to know the basic principles of the law, its good or bad legal and economic consequences in micro and macro companies, considering civil and commercial contract features that respond to the needs of the company. In similar manner, the student will be able to list and describe different social obligations through compilation and exhaustive and concrete use of legal regulations to solve a company's business problems nationally and internationally.

FIFTH SEMESTER**LDE1031 LABOR LAW (*)**

At the end of this course, the student will be able to apply to concrete cases the rights and obligations that workers and employers have to each other. The student will analyze strike negotiations from worker's and employer's standpoints, as well as identify and solve legal problems linked to norms and regulations of worker-employer relationships, supported by doctrine and jurisprudence.

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LFP3011 CORPORATE FINANCE

At the end of this course, the student will be able to analyze and debate the theory and practice of financial functions and to determine the cost and capital structure as well as working capital management. The student will analyze and develop

methods, cases and problems in topics such as cost capital, financial leverage, capital structure theories, dividend policy, cash management, account receivables and inventories, as well as sources of funding in the short term.

LFP3031 TAX LEGISLATION I

At the end of this course, the student will be able to acknowledge the importance of tax legislation within tax administration and businesses, describing the legal background of some tax provisions such as Código Fiscal de la Federación and its regulation, Ley del Servicio de Administración Tributaria, Ley Orgánica del Tribunal Federal de Justicia Fiscal y Administrativa, Ley Federal del Procedimiento Contencioso Administrativo, Juicio de Amparo en Materia Fiscal and, in general defense mechanisms against federal, state, and municipal authorities. The student will know fiscal principles and Sistema de Justicia en Línea and the Juicio en la vía Sumaria.

LFP3021 AUDIT NORMS AND PROCEDURES

At the end of this course, the student will be able to understand the processes involved in planning, executing and supervising an audit of financial statements, and to identify the complete outlook of an auditor's job as well as the tools used in his/her profession.

ECO1021 INTRODUCTION TO MACROECONOMICS

At the end of this course, the student will be able to identify, define, and use main variables of economic analysis in the short and long term.

SIXTH SEMESTER

LFP3051 INVESTMENT PROJECT ANALYSIS

At the end of this course, the student will be able to identify, analyze and classify tools and methods for investment alternative assessment in investment projects that increase profitability and decrease risk. The student will be able to define and apply evaluation methods, considering market, technical, managerial, legal, financial, economic and social factors with particular emphasis on finance and economics.

LFP3071 FOREIGN TRADE AND INTERNATIONAL TREATIES

At the end of this course, the student will be able to identify, describe and use laws on IVA, Foreign Trade, Customs and Impuestos Generales de Importación y Exportación to conduct import-export operations in goods and services, as well as the general framework of foreign trade treaties of Mexico and the rest of the world.

LAD1021 HUMAN BEHAVIOR IN ORGANIZATIONS

At the end of this course, the student will be able to develop and foster the understanding of people in organizations, to gain an assertive posture in interactions, thus contributing to organizational objectives.

LFP3061 ADVANCED ACCOUNTING AND NGO'S

At the end of this course, the student will be able to know the ac-

counting services for NGO's and public organizations, as well as those companies in need of specific accounting procedures in current legal and accounting practice.

LAD4041 STRATEGY IN BUSINESS

At the end of this course, the student will be able to think strategically about a company, its current position, long term vision, resources and competitive capability, strategic focus, and opportunities to achieve sustained competitive advantages

LFP3041 TAX LEGISLATION II

At the end of this course, the student will be able to update the fiscal knowledge acquired in previous courses because of reforms to tax legislation, and analyze, sketch and define comprehensively and comparatively the Ley del Impuesto sobre la Renta, Ley del Impuesto al valor Agregado and Impuesto Empresarial de Tasa Única y el Impuesto a los Depósitos en Efectivo, in order to be successful in other courses dealing with fiscal matters.

SEVENTH SEMESTER

LFP4041 INTERNATIONAL FINANCE

At the end of this course, the student will be able to use, analyze, and outline economic and financial tools needed for corporate financial management in the international sphere, understanding international markets function with emphasis on the foreign exchange market. The student will be able to discern the function of derivative financial instruments and their use for hedging and speculation. The student will also define other mechanisms in international financial markets in order to invest internationally or to obtain international financing, and to minimize risk and optimize yields in international companies.

LFP4051 DERIVATIVE FINANCIAL INSTRUMENTS

At the end of this course, the student will be able to define and use different derivative instruments for the management of financial risk in business, planning coverage and speculative strategies as well as evaluating each instrument to determine its risk value.

LFP4031 TAX LEGISLATION II

At the end of this course, the student will be able to update fiscal knowledge acquired in previous courses due to reforms to tax legislation, and identify, describe and use Ley del Impuesto sobre la Renta together with laws on Impuesto al Valor Agregado, Impuesto Empresarial a Tasa Única and Impuesto a los Depósitos en Efectivo, to carry out operations for individuals and corporations.

LFP4011 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to practice his/her knowledge to diagnose, evaluate and take part in solving problems and situations in his/her profession, establishing a link between theory and practice, between school and society, and between his/her aspirations and the needs of his/her environment.

LFP4021 DECISION SUPPORT SYSTEMS

At the end of this course, the student will be able to analyze

the role of decision support systems for financial decision making, through the study of concepts, tools, research and development of cases and projects.

TFP4011 ELECTIVE COURSE I

At the end of this course, the student will be able to understand and delve into the selected topics of public accounting, with the objective of staying up-to-date on the diverse aspects that make up this important area of business knowledge.

EIGHTH SEMESTER

LFP4091 INTEGRAL RISK ANALYSIS

At the end of this course, the student will be able to identify a company's risk, establishing strategies to minimize it to a reasonable level and considering the benefit and effort involved that the company is willing to achieve.

LFP4081 PAYROLL CONTRIBUTIONS

At the end of this course, the student will be able to identify, describe and use Seguro Social, Instituto del Fondo Nacional de la Vivienda para los Trabajadores, Sistema del Ahorro para el Retiro sus Reglamentos Reglas y Circulares, Impuesto Sobre la Renta and state payroll tax laws and regulations to describe an overview of social security at the national and international levels.

LFP4071 RULINGS

At the end of this course, the student will be able to identify and apply various rulings before national authorities as well as the ruling characteristics at the international level. The student will interpret different opinions of an auditor as a result of a review.

LFP4061 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to practice his/her knowledge to diagnose, evaluate and take part in solving problems and situations in his/her profession, establishing a link between theory and practice, between school and society, and between his/her aspirations and the needs of his/her environment.

TPF4021 ELECTIVE COURSE II

At the end of this course, the student will be able to understand and delve into the selected topics of Public Accounting and Administration, with the objective of staying up-to-date on the diverse aspects that make up this important area of business knowledge.

TPF4031 ELECTIVE COURSE III

At the end of this course, the student will be able to understand and delve into the selected topics of Fiscal Legislation and Administration, with the objective of staying up-to-date on the diverse aspects that make up this important area of business knowledge.

HOTEL AND RESTAURANT ADMINISTRATION

FIRST SEMESTER

LCU1021 GASTRONOMIC CULTURE OF MEXICO AND THE WORLD

At the end of this course, the student will be able to identify different periods and the evolution of gastronomy through history, as well as each country's contributions to gastronomy.

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LHR1011 INTRODUCTION TO HOTELS AND RESTAURANTS

At the end of this course, the student will be able to identify the elements of the hospitality industry, as well as those most relevant for the operation and management of hospitality and food services. The student will find out employment and development opportunities that this industry has to offer.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHR1031 HYGIENIC HANDLING OF FOODSTUFFS

At the end of this course, the student will be able to correctly use hygiene principles for handling foodstuffs in order to prevent contamination and disease transmission. This will include purchases and storage, preparation and service, as well as selection of different types of foodstuffs, and setting conditions to properly receive and store foodstuffs.

ADM1011 INTRODUCTION TO ADMINISTRATION (*)

At the end of this course, the student will be able to describe the nature of administration, its characteristics and dynamic process, and to understand the essence of administration in the working areas of businesses.

LHR1021 PROTOCOL AND ETIQUETTE

At the end of this course, the student will be able to identify the dynamics of protocol rules in a historic, legal and social context.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

LHR1041 RESTAURANT ADMINISTRATION I

At the end of this course, the student will be able to identify distribution and service forms, to elaborate menus according to particular clients and service styles, and considering nutritional factors. The student will know production methods and their control, estimate recipe costs, suggest prices and select kitchen and dining room equipment. The student will be able also to identify characteristics, evolution and trends in the food service industry, as well as their planning and menu cost estimate.

LHR1061 LODGING ADMINISTRATION

At the end of this course, the student will be able to identify the general concepts in hotel management, especially front of the house, starting from each activity and area that comes together in a guest cycle. The student will determine, relate and classify basic administrative, operational and accounting procedures in a guest cycle: reservations, check-in, check-out and stay. The student will also analyze and itemize night audit reports.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LHR1051 INTRODUCTION TO TOURISM

At the end of this course, the student will be able to diagram the components of international tourism and their interrelations, as well as analyze tourism as a social phenomenon with political, economic and socio cultural implications. The student will discuss tourist behavior during trips, travel commercialization, the role of international organizations, social economic and environmental impacts, as well as identify tendencies in international tourism.

ACU1011 FOOD AND DRINK LAB I

At the end of this course, the student will be able to identify and apply adequate techniques to prepare dishes, handle foodstuffs hygienically, standardize recipes and serve correctly at table. All this with the purpose of knowing basic needs pertaining to kitchen management and service in a restaurant.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1021 MATH I

At the end of this course, the student will be able to use basic algebraic concepts, setting up and solving equations that represent problems involving percentages and interest rates.

Also, the student will use trigonometric tools to solve geometric problems.

THIRD SEMESTER

LFP1011 FINANCIAL ACCOUNTING (*)

At the end of this course, the student will be able to identify and analyze different types of organizations and diverse financial statements relevant and useful for adequate decision making. The student will also learn to identify and define an exact outlook of accounting in business and its importance to control its results.

NUT1011 INTRODUCTION TO NUTRITION

At the end of this course, the student will be able to analyze and compare the functions and requirements of nutrients, as well as identifying the foods they come from to plan a nutritional diet to solve health issues, thus complementing diets with menu plans.

ACU2011 FOOD AND DRINK LAB II

At the end of this course, the student will be able to identify and apply adequate techniques for cooking vegetables, meats, poultry, fish and dairy products in order to obtain different flavors, colors, and combinations of dishes. The student will also understand the expenses and processes most often used in the restaurant business.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LHR2011 TOURISTIC MARKETING

At the end of this course, the student will be able to master general concepts of marketing and to use them in different industry travel and tourism sectors, as well as diagnose marketing problems related to tourism and draft marketing plans applied to tourism.

LAQ3041 CULTURAL HERITAGE

At the end of this course, the student will be able to display a set of archeological values through the critical study and analysis of codes of ethics past and present in the field. The student will also evaluate points of view about the treatment and disposal of human remains, archeological and historic sites and other antiquities. Additionally, he/she will be able to show an effective posturing to support and defend cultural heritage preservation and to evaluate contemporary topics about legal and ethical features in the practice of professional archeology.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities

to validate, share, retrieve and use information in an effective and ethical manner.

FOURTH SEMESTER

LHR2031 RESTAURANT ADMINISTRATION II

At the end of this course, the student will be able to purchase foodstuff, identify their markets and ways to serve them, organize restaurant personnel and their activities, select suppliers and outline specifications for food purchases, as well as rate the quality of food service and products in the restaurant.

MAT2011 STATISTICAL ANALYSIS

At the end of this course, the student will be able to apply the basic descriptive statistical tools in diverse practical problems, calculating elemental probabilities, identifying and correctly applying the different methods, and using the main distributions and confidence intervals in everyday subjects.

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

LAD1021 HUMAN BEHAVIOR IN ORGANIZATIONS

At the end of this course, the student will be able to develop and foster the understanding of people in organizations, to gain an assertive posture in interactions, thus contributing to organizational objectives.

LHR2021 MARKETING FOR HOTELS AND RESTAURANTS

At the end of this course, the student will be able to define basic terminology of marketing and discuss its direct applications in hotels and restaurants with the purpose of preparing a marketing plan.

LHR2041 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to analyze different procedures to be used in every area, front and back, of the hotel. The student will have a first contact with guests and make decisions to solve problems, as well as practice the concepts studied in previous semesters.

ECO1011 INTRODUCTION TO MICROECONOMICS

At the end of this course, the student will be able to handle the basic elements of economic analysis, with emphasis on their use as decision makers for consumers and companies.

FIFTH SEMESTER

LHR3011 BEVERAGE SERVICE MANAGEMENT

At the end of this course, the student will be able to make decisions in managing, preparing and serving drinks in restaurant and hotel areas.

LHR3021 CORPORATE COMMUNICATION FOR HOTELS AND RESTAURANTS

At the end of this course, the student will be able to understand the basic concepts of communication theory and use them strategically in all areas of hotels and restaurants.

CON3011 COST ACCOUNTING OF HOTELS AND RESTAURANTS

At the end of this course, the student will be able to apply and master the way to determine the production costs of food and drinks in the hotel and restaurant sector.

LDE1031 LABOR LAW (*)

At the end of this course, the student will be able to apply to concrete cases the rights and obligations that workers and employers have to each other. The student will analyze strike negotiations from worker's and employer's standpoints, as well as identify and solve legal problems linked to norms and regulations of worker-employer relationships, supported by doctrine and jurisprudence.

LHR3031 ENVIRONMENT, TYPOLOGY AND ATMOSPHERE OF HOTEL INSTALLATIONS

At the end of this course, the student will be able to use his/her knowledge for the adequate use or design of hotels, as well as offer hospitality services in different settings and market conditions.

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

SIXTH SEMESTER

CON3021 FINANCIAL MANAGEMENT OF HOTELS AND RESTAURANTS

At the end of this course, the student will be able to analyze, identify, and debate about the role of financial administrator in the hotel and restaurant sector. Also, he/she will be able to understand its operation, the basic tools of financial analysis and planning, to evaluate financial outcomes through financial reasoning and cash flow, taking into consideration the structure of assets and the financial structure.

LHR3051 TOURISM MARKET ANALYSIS

At the end of this course, the student will be able to use methodology to obtain, analyze and interpret information needed for decision-making required by hotels and restaurants in a competitive environment.

LHR3071 TOURISM ECONOMICS

At the end of this course, the student will be able to handle basic concepts of determinants in the competitive environment in business and organizations within tourism markets, as well as to know common the procedures and techniques to locate companies related to tourism services.

ACU3011 WINE CULTURE

At the end of this course, the student will be able to define basic concepts related to alcoholic beverages and to explain the consequences of alcohol consumption on health. He/She will be able to discern basic characteristics of different wines and liquors and to explain in a general way methods of elaboration, conservation and serving of different alcoholic beverages. At the same time, he/she will be able to identify characteristics, types, standards and regions that produce specific wines and to objectively appreciate the quality of wines as well as their pairing with food.

LHR3061 MAINTENANCE IN HOTELS AND RESTAURANTS

At the end of this course, the student will be able to know characteristics, operation, service, upkeep and maintenance of installations and equipment in the hotel industry.

LHR3041 NEW APPROACHES TO HOTEL AND RESTAURANT BUSINESSES

At the end of this course, the student will be able to identify and analyze frequent business opportunities in the hospitality industry. The student will design a conceptual and operational framework related to different business perspectives, and analyze and debate related problems in order to offer solutions, as well as to determine the best business alternative for particular situations.

THR4011 ELECTIVE COURSE I

At the end of this course, the student will be able to identify the conceptual and operational frameworks related to resorts, relating and integrating the concepts of hotel administration and tourist planning by recognizing the particular characteristics and problems of resort hotels, describing their relevant characteristics and associating the administration of a traditional hotel to the particularity of different types of resorts (spas, golf, tennis, etc.)

SEVENTH SEMESTER

LHR4041 SOCIAL EVENT MANAGEMENT

At the end of this course, the student will be able to debate group market relevance and its segmentation, as well as the social events market in general, for hotel operations and for different tourist destinations. The student will be able to handle operational aspects of every kind of group and massive social events in hotels and convention centers, as well as to detect other possible sites and installations for them.

LHR4021 QUALITY AND REGULATIONS IN HOTELS AND RESTAURANTS

At the end of this course, the student will be able to use the basic terminology of regulations, apply their concepts to hotels and restaurants, value the importance of quality as it applies to hotels and restaurants, and understand different regulations that affect these businesses.

LHR4031 ELECTRONIC COMMERCE AND TOURISM

At the end of this course, the student will be able to analyze elements and technologies that are key for electronic businesses and develop skills in Internet technology to apply them to procedures in the business.

LHR4011 STRATEGY IN HOTELS AND RESTAURANTS

At the end of this course, the student will be able to use basic terminology, discuss concepts, and value the importance of quality as it applies to hotel and restaurant management, understanding regulations affecting this business.

LHR4051 MANAGEMENT OF HOTELS AND RESTAURANTS SEMINAR

At the end of this course, the student will be able to know, value, and apply all knowledge acquired throughout the program about hotel industry to enter successfully in different national and international hotel businesses.

THR4021 ELECTIVE COURSE II

At the end of this course the student will be able to define the factors that have influenced the changes that have occurred in contemporary restaurants, their service, and design, as well as the changes in the consumer's needs. The student will also be able to identify the fashions and trends in food, beverages, operation and service of restaurants, and be able to examine what influences a customer's behavior in restaurants.

THR4031 ELECTIVE COURSE III

At the end of this course, the student will be able to understand the strategic importance of generating planned changes, having a solid conceptual framework to apply the foundations of change management and familiarizing him/herself with the diverse tools and approaches - including the art of facilitating - in the different actions and tasks in hotels and/or restaurants.

EIGHTH SEMESTER**LHR4061 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to write a paper that includes a reflection on advantages and disadvantages found in his/her professional practices. The student will exchange experiences and points of view about different mechanisms used by hotels to accomplish objectives. Likewise, the student will report his/her evaluations in such a way as to be applied in a business environment.

INTERNATIONAL BUSINESS ADMINISTRATION

FIRST SEMESTER

LFP1011 FINANCIAL ACCOUNTING (*)

At the end of this course, the student will be able to identify and analyze different types of organizations and diverse financial statements relevant and useful for adequate decision making. The student will also learn to identify and define an exact outlook of accounting in business and its importance to control its results.

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LN11011 FUNDAMENTALS OF MULTINATIONAL BUSINESS ADMINISTRATION

At the end of this course, the student will be able to correctly use de concepts and technical guidelines of multinational business administration. Also the student will be able to analyze the behavior strategies of certain multinational companies to face the great challenges raised by their business environments.

LN11021 ECONOMIC GEOGRAPHY AND DEVELOPMENT EXPECTATIONS

At the end of this course, the student will be able to identify the different globalization processes, as well as the issues related to economic, social and political aspects that developing or emerging countries face.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

ADM1011 INTRODUCTION TO ADMINISTRATION (*)

At the end of this course, the student will be able to describe the nature of administration, its characteristics and dynamic process, and to understand the essence of administration in the working areas of businesses.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

SECOND SEMESTER

LN11031 INTERCULTURAL MANAGEMENT

At the end of this course, the student will be able to understand the cultural heterogeneity of the modern work from a polycentric point of view, through the acquisition of the necessary basic concepts to identify the main cultural differences between countries.

CON1011 COST ACCOUNTING

At the end of this course, the student will be able to apply and master the way to determine the production costs and to design the cost system of a company, understanding that costs represent an important element in operating and managing a company.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1021 MATH I

At the end of this course, the student will be able to use basic algebraic concepts, setting up and solving equations that represent problems involving percentages and interest rates. Also, the student will use trigonometric tools to solve geometric problems.

ECO1011 INTRODUCTION TO MICROECONOMICS

At the end of this course, the student will be able to handle the basic elements of economic analysis, with emphasis on their use as decision makers for consumers and companies.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

THIRD SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

CON2021 MANAGERIAL ACCOUNTING

At the end of this course, the student will be able to apply costs

to plan and control, using different tools that will be used in class to prepare students to be able to make short term decisions in business.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

MAT1031 MATH II

At the end of this course, the student will be able to use basic concepts of differential and integral calculus to solve real-life economic, social and management problems, thus depicting the behavior of consumers and producers surplus to solve problems of a corporate nature.

LNI2021 MEXICO AND ITS RELATIONSHIP WITH CANADA AND THE UNITED STATES

At the end of this course, the student will be able to apply his knowledge regarding the strengths and weaknesses of the relationship between Mexico, Canada and the United States, with the purpose of identifying areas of opportunity for businesses.

ECO1211 INTRODUCTION TO MACROECONOMICS

At the end of this course, the student will be able to identify, define, and use main variables of economic analysis in the short and long term.

LNI2011 BUSINESS REGULATION IN MEXICO

At the end of this course, the student will be able to interpret and apply the basic principles and guidelines to do business in Mexico within the framework established by law.

FOURTH SEMESTER

MAT2011 STATISTICAL ANALYSIS

At the end of this course, the student will be able to apply the basic descriptive statistical tools in diverse practical problems, calculating elemental probabilities, identifying and correctly applying the different methods, and using the main distributions and confidence intervals in everyday subjects.

LNI2041 INTERNATIONAL BUSINESS COMMUNICATION

At the end of this course, the student will be able to identify the theoretical bases of international communication, and will be able to apply the different verbal and nonverbal communication styles while taking into account cultural differences.

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sus-

tained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LMK1011 MARKETING FUNDAMENTALS (*)

At the end of this course, the student will be able to identify the principles and key elements of marketing (product, price, placement and promotion) to develop a market strategy to create value for customers.

LNI2031 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to diagnose problems or opportunities in different areas of a company, proposing solutions and opting for the most adequate one based on objective selection criteria, thus implementing the recommended solution. The student will have a significant professional experience through an internship in an international company, under the supervision of an executive of the company, as well as a professor.

LNI2051 INTERNATIONAL BUSINESS REGULATION

At the end of this course, the student will be able to identify and apply the legal and non-legal elements that regulate world business and how they impact companies.

LAD2041 INFORMATION TECHNOLOGY IN BUSINESS

At the end of this course, the student will be able to value the strategic importance of information technologies within organizations; and to develop skills to use them as support information systems, decision making, and competitive advantage of organizations.

FIFTH SEMESTER

CON2011 FINANCIAL ADMINISTRATION

At the end of this course, the student will be able to analyze, identify and debate about the role of financial administrators in companies, different forms of operation, basic tools of financial analysis and planning, financial evaluation through the analysis of financial reasoning and cash flow, structure of assets and financial structure. In the same way, he/she can analyze determinants for asset evaluation, the value of money through time, risk and profit analysis and the characteristics and forms to evaluate fixed assets and common shares in national and international markets.

LAD2021 STRATEGIC MANAGEMENT OF HUMAN RESOURCES

At the end of this course, the student will be able to analyze and apply the most important concepts and functions of strategic management of human resources within organizations. The student will be able to develop skills to solve human resource problems.

LNI3011 GLOBAL BUSINESS ENVIRONMENT

At the end of this course, the student will be able to identify the basic globalization theories, as well as international com-

panies' operations. The student will be able to identify and analyze uncontrollable variables that have a significant impact on international businesses, and their decision-making and strategic action. The student will be able to propose strategies and solutions that are compatible to the company's situation within a global business context.

LN13031 REGIONAL STUDIES I

At the end of this course, the student will be able to evaluate the economic importance of the main countries in Asia, such as China, Japan, South Korea, Taiwan and Singapore. The student will be able to identify the main differences and specific challenges of doing business in each of these countries. The student will also be able to compare European countries in terms of economy, politics, and business opportunities, thus evaluating how attractive business is in European markets.

LMK2061 MARKET RESEARCH

At the end of this course, the student will be able to identify the importance of market research as a fundamental marketing information tool in companies. The student will know the fundamental guidelines to design market research and measurement methods that allow him/her to study the problems related with marketing goods and services. Also, the student will carry out a quantitative market research to provide relevant data regarding a product or service, to reduce uncertainty in a market's decision-making.

LN13021 INTERNATIONAL LOGISTICS I

At the end of this course, the student will be able to describe the importance of international companies' logistic activities, identifying the general principles of international purchasing administration, as well as the location of operations of an international company. The student will also be able to define the principles of Customer Relationship Management (CRM) systems.

LAD4081 SOCIAL RESPONSIBILITY IN BUSINESS

At the end of this course, the student will be able to: analyze a company's function as creator of shared value, both economic and social, define initiatives and social programs with impact on business and society, and to acquire the knowledge and tools to present a report and social balance for the company.

SIXTH SEMESTER

CON4011 INTERNATIONAL FINANCE ADMINISTRATION

At the end of this course, the student will be able to use, analyze and diagram the economic and financial instruments needed for international companies, by understanding how financial markets work, especially currency markets. Also, to identify how different international financial markets operate, in particular the foreign exchange market. Additionally, the student identifies the functions of different derivative financial instruments and their use for hedging and speculation and discerns other mechanisms in the international financial market that apply to international investments or to

obtain international financing. Given this information, the student can minimize the risk and optimize yields for international companies.

LN13041 INTERNATIONAL HUMAN RESOURCE MANAGEMENT

At the end of this course, the student will be able to identify the strategy challenges of human resources in multinational companies. Also, the student will be able to design human resource policies for the following areas: 1) social architecture, 2) recruitment and selection, 3) international mobility and development, and 4) performance evaluation and compensation.

LN13061 INTERNATIONAL CORPORATE STRATEGY

At the end of this course, the student will be able to understand how companies formulate, implement and evaluate strategies. The student will be able to plan the future direction of different organizations, making objective strategy decisions and justifying them.

LN13081 REGIONAL STUDIES II

At the end of this course, the student will be able to compare and contrast the major differences between the main Latin American markets regarding infrastructure, economy, technological development, political systems, and legal and social behavior. Also, the student will have the capacity to evaluate the potential investment opportunities in Latin American markets.

LN13071 INTERNATIONAL LOGISTICS II

At the end of this course, the student will be able to describe the importance of international companies' logistic activities, identifying the general principles of international purchasing administration, as well as the location of operations of an international company. The student will also be able to define the principles of Customer Relationship Management (CRM) systems.

TNI4011 ELECTIVE COURSE I

At the end of this course, the student will be able to analyze and debate on current topics related to the different aspects that make up the study of international business.

LN13051 INTERNATIONAL TRADE AGREEMENTS

At the end of this course, the student will be able to apply, in specific cases, his/her knowledge regarding opportunity niches that are available to Mexican and foreign companies in the commercial treaty regulatory framework.

SEVENTH SEMESTER

LAD4071 PROJECT AND PROGRAM MANAGEMENT

At the end of this course, the student will be able to apply techniques and tools for project administration through a complete and coherent methodology, valid for any kind of project, including organizational, human and technical features.

LNI4011 FOREIGN TRADE MANAGEMENT

At the end of this course, the student will be able to classify new opportunities in foreign markets (from a Mexican point of view), understanding the legal export/import aspects and dominating the principles of planning in export operations.

LNI4031 REGIONAL STUDIES III

At the end of this course, the student will be able to describe the main business events that have affected and will continue to affect the Middle East and North Africa (MENA). Also, the student will be able to analyze daily events and understand the business environment of the MENA region.

LMK3041 INTERNATIONAL MARKETING

At the end of this course, the student will be able to identify the concepts related to international marketing, as well as how to apply these concepts and theoretical guidelines. The student will also learn to analyze the environmental forces to develop strategies for products and services in international markets.

LNI4021 INTERNATIONAL NEGOTIATIONS

At the end of this course, the student will be able to identify and apply concepts and theoretical guides to design, execute and evaluate international contract negotiation strategies between companies. Also, the student will enrich his/her social capabilities as an intercultural business contract negotiator

TNI4021 ELECTIVE COURSE II

At the end of this course, the student will be able to analyze and debate on current topics related to the different aspects that make up the study of international business.

TNI4031 ELECTIVE COURSE III

At the end of this course, the student will be able to analyze and debate on current topics related to the different aspects that make up the study international business.

EIGHTH SEMESTER**LNI4041 PROFESSIONAL PRACTICES II**

At the end of this course, the student will be able to diagnose problems or opportunities in different areas of a company, proposing solutions and opting for the most adequate one based on objective selection criteria, thus implementing the recommended solution. The student will have a significant professional experience through an internship in an international company, under the supervision of an executive of the company, as well as a professor.

MARKETING

FIRST SEMESTER

ADM1011 INTRODUCTION TO ADMINISTRATION (*)

At the end of this course, the student will be able to describe the nature of administration, its characteristics and dynamic process, and to understand the essence of administration in the working areas of businesses.

ESPO011 SPANISH I

At the end of this course, the student will be able to give information to present argumentative texts in his/her discipline using simple writing to persuade in areas of academic interactions.

LEX0111 FOREIGN LANGUAGE I

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMK1011 MARKETING FUNDAMENTALS (*)

At the end of this course, the student will be able to identify the principles and key elements of marketing (product, price, placement and promotion) to develop a market strategy to create value for customers.

MAT0011 QUANTITATIVE REASONING

At the end of this course, the student will be able to setup and solve problems, translate wording into symbolic relationships, manage symbols and use graphs and symbols to communicate quantitative data and graphs.

MAT1021 MATH I

At the end of this course, the student will be able to use basic algebraic concepts, setting up and solving equations that represent problems involving percentages and interest rates. Also, the student will use trigonometric tools to solve geometric problems.

SECOND SEMESTER

ECO1011 INTRODUCTION TO MICROECONOMICS

At the end of this course, the student will be able to handle the basic elements of economic analysis, with emphasis on their use as decision makers for consumers and companies.

ESPO021 SPANISH II

At the end of this course, the student will be able to select and give information and to direct his/her argumentative and spoken skills to compose texts in his/her discipline and to use them to inform and increase academic and scientific knowledge.

LEX0121 FOREIGN LANGUAGE II

At the end of this course, the student will be able to convey and

understand familiar and new information orally and in writing.

LFP1011 FINANCIAL ACCOUNTING (*)

At the end of this course, the student will be able to identify and analyze different types of organizations and diverse financial statements relevant and useful for adequate decision making. The student will also learn to identify and define an exact outlook of accounting in business and its importance to control its results.

LMK1021 CONSUMER BEHAVIOR

At the end of this course, the student will be able to understand the behavior of consumers in marketing, understanding the formation and changes of attitude in consumers to create successful market segmentations, and to identify the influential factors in shopping behavior. This information will allow the student to create consumer purchasing process models.

LMK1031 INTERNAL MARKETING

At the end of this course, the student will be able to understand the strategic importance of the human factor in companies. The student will be able to design and interpret efficient internal marketing strategies that are adequate for companies and its internal customers.

MAT1031 MATH II

At the end of this course, the student will be able to use basic concepts of differential and integral calculus to solve real-life economic, social and management problems, thus depicting the behavior of consumers and producers surplus to solve problems of a corporate nature.

THIRD SEMESTER

CON1011 COST ACCOUNTING

At the end of this course, the student will be able to apply and master the way to determine the production costs and to design the cost system of a company, understanding that costs represent an important element in operating and managing a company.

INFO011 INFORMATION TECHNOLOGIES IN THE CONSTRUCTION OF KNOWLEDGE

At the end of this course, the student will be able to use communication and information technologies in research, decision-making, ideas and proposals, using processing abilities to validate, share, retrieve and use information in an effective and ethical manner.

LAD2051 ENTREPRENEURIAL CULTURE

At the end of this course, the student will be able to formulate, plan, and implement a new business initiative, using methods and tools that allow him/her to approach it with an entrepreneurial focus.

LEX0131 FOREIGN LANGUAGE III

At the end of this course, the student will be able to convey and understand familiar and new information orally and in writing.

LMK2011 QUALITATIVE MARKET RESEARCH

At the end of this course, the student will be able to carry out a qualitative market research regarding the motivations and attitudes of consumers during the process of acquiring goods and/or services. This information will allow companies to make correct marketing decisions.

MAT2011 STATISTICAL ANALYSIS

At the end of this course, the student will be able to apply the basic descriptive statistical tools in diverse practical problems, calculating elemental probabilities, identifying and correctly applying the different methods, and using the main distributions and confidence intervals in everyday subjects.

FOURTH SEMESTER

AHCO011 ART, HISTORY AND CULTURE

At the end of this course, the student will be able to identify and analyze communication and action strategies, as well as the influence of political, social and economic transformation of models, cultural artifacts and their conservation.

ECO1021 INTRODUCTION TO MACROECONOMICS

At the end of this course, the student will be able to identify, define, and use main variables of economic analysis in the short and long term.

LAD3021 DECISION MODELS

At the end of this course, the student will be able to identify the linear programming model necessary for the solution of industrial and business problems.

LMK2021 INTEGRATED MARKETING COMMUNICATION

At the end of this course, the student will be able to understand the importance of communicating to customers the products or services that are offered, through different tools of integrated marketing communication. The student will apply the knowledge and tools that allow him/her to design integrated communication campaigns.

LMK2031 PRODUCT INNOVATION

At the end of this course, the student will be able to have a global perspective of the importance of product innovation as a driver for growth, competitive advantage and value creation for companies and organizations in a competitive market. Also, the student will be able to create a product innovation or creation strategy.

LMK2041 QUANTITATIVE MARKETING RESEARCH

At the end of this course, the student will be able to identify the importance of market research as a fundamental marketing information tool in companies. The student will know the fundamental guidelines to design market research and measurement methods that allow him/her to study the problems related to marketing goods and services. Also, the student will carry out a quantitative market research to provide relevant data regarding a product or service, to reduce uncertainty in a markets decision-making.

LMK2051 SERVICE MARKETING AND CRM

At the end of this course, the student will be able to plan, design and implement a service in function of customers' needs, integrating the marketing objectives and strategies, and using quality of service as a competitive advantage. The student will also be able to design strategies and systems to understand and establish loyalty with customers, suppliers, distributors and other marketing partners, through the use of information technology.

FIFTH SEMESTER

CON2011 FINANCIAL ADMINISTRATION

At the end of this course, the student will be able to analyze, identify and debate about the role of financial administrators in companies, different forms of operation, basic tools of financial analysis and planning, financial evaluation through the analysis of financial reasoning and cash flow, structure of assets and financial structure. In the same way, he/she can analyze determinants for asset evaluation, the value of money through time, risk and profit analysis and the characteristics and forms to evaluate fixed assets and common shares in national and international markets.

DIS3011 VALUATION DESIGN

At the end of this course, the student will be able to develop evaluation skills that allow him/her to recognize the usefulness, effectiveness, and impact of interfaces derived from any information and communication project. The student will be able to correctly evaluate solutions to design problems, detect errors and deficiencies in selected objects, as well as to identify successes.

EDS0011 ETHICS FOR SUSTAINABLE DEVELOPMENT

At the end of this course, the student will be able to identify and analyze the general lines of sustained development study, on the practical and theoretical level. The student will be able to understand the relevance of ethical behavior in the design and implementation of sustained development, as well as the deficiencies and accomplishments of Mexico regarding sustained development. Also, the student will be able to know the appropriate policies to obtain significant and responsible social changes regarding sustained development.

LMK3011 SOCIAL MARKETING

At the end of this course, the student will be able to plan and conduct social marketing plans for nonprofit organizations, public institutions or political parties with the objective of improving the quality of life of the population.

LMK3021 MARKET INTELLIGENCE

At the end of this course, the student will be able to master the focuses of multi-variable statistics and market intelligence to generate relevant information from internal processes, consumer characteristics and main competitors. The student will learn to turn data into useful and opportune information, in line with a company's strategic requirements. The student

will also be able to identify and apply multi-variable statistical techniques in the analysis of data accrued from consumer surveys, interpreting the results in an adequate fashion and with the necessary tools to analyze large volumes of numerical data, from multi-dimensional or transactional databases.

LMK3031 MEDIA PLANNING AND BTL

At the end of this course, the student will be able to understand the importance of backing up an integral marketing communication strategy through the proper selection of mass media or alternative communication means. The student will learn to make an adequate media plan that maximizes profits in publicity investment.

SIXTH SEMESTER

LFP2051 CORPORATE GOVERNANCE

At the end of this course, the student will be able to identify and sketch the legal order of Mexico as well as legal features of civil and commercial contracts in order to know the basic principles of the law, its good or bad legal and economic consequences in micro and macro companies, considering civil and commercial contract features that respond to the needs of the company. In similar manner, the student will be able to list and describe different social obligations through compilation and exhaustive and concrete use of legal regulations to solve a company's business problems nationally and internationally.

LMK3041 INTERNATIONAL MARKETING

At the end of this course, the student will be able to identify the concepts related to international marketing, as well as how to apply these concepts and theoretical guidelines. The student will also learn to analyze the environmental forces to develop strategies for products and services in international markets.

LMK3051 PRICING STRATEGY

At the end of this course, the student will be able to identify the strategic role of pricing in marketing decisions, as well as its relation with commercial decisions in the creation of value and competitive advantage. Also, the student will be able to integrate the knowledge acquired in economics, finance, operations and marketing in the use of approaches and tools for pricing.

LMK3061 IMAGE AND PUBLIC RELATIONS

At the end of this course, the student will be able to evaluate and apply basic theories, models, tools and techniques that intervene in public relations, acquiring an integral vision of the area, and valuing the role that public relations play in any organization. The student will also understand the importance that his/her public and professional image and his/her responsible and ethical behavior has in the world.

LMK3071 DISTRIBUTION STRATEGIES

At the end of this course, the student will be able to develop commercial distribution strategies as well as integrate and

relate the agents that make up the distribution channels. The student will also understand the functions of different intermediaries, the characteristics of commercial setups, and the influence of new information and communication technologies

LMK3081 SALES

At the end of this course the student will be able to analyze the nature and importance of the sales force in a company, in economic systems, in social reform movements and in the personal life of millions of consumers and retailers that make up the marketing system.

LMK3091 MARKET FORECAST VARIABLES

At the end of this course, the student will be able to master the quantitative and qualitative focuses of forecasting in business, understanding the necessary tools to effectively manage forecasting processes, and to use the most relevant market variables in companies for decision-making.

SEVENTH SEMESTER

CON3031 INVESTMENT PROJECT EVALUATION

At the end of this course, the student will be able to identify, analyze, and classify tools and methods to evaluate investment alternatives in projects that increase the profitability and diminish risk of businesses. Also, the student is also able to develop evaluation methods, considering market, technical, administrative, legal, financial, economic and social factors, stressing financial and economic consideration.

LAD4081 SOCIAL RESPONSIBILITY IN BUSINESS

At the end of this course, the student will be able to: analyze a company's function as creator of shared value, both economic and social, define initiatives and social programs with impact on business and society, and to acquire the knowledge and tools to present a report and social balance for the company.

LMK4011 RETAILING AND MERCHANDISING

At the end of this course, the student will be able to apply a strategic perspective to retailing through the study of the four Ps, consumer analysis and competition analysis of the field. Also, the student will be able to analyze the importance of merchandise, environment, productivity and earnings to determine retailing practices in function of the environment to develop product planning from its creation, purchasing and arrangement at the point of sale.

LMK4021 BRANDING

At the end of this course, the student will be able to use the basic tools to build, measure and manage a brand, in such a way that the brand can have a long-lasting image, value and reputation.

TMK4011 ELECTIVE COURSE I

At the end of this course, the student will be able to position his/her products and/or services in an effective manner, developing the corresponding marketing mix and focusing on

the particular needs of public and/or political institutions (NGOs, governments, political parties).

TMK4021 ELECTIVE COURSE II

At the end of this course, the student will be able to position his/her products and/or services in an effective manner, developing the corresponding marketing mix and focusing on the particular needs of private for-profit companies (national and global companies).

TMK4031 ELECTIVE COURSE III

At the end of this course, the student will be able to position and/or sell his/her products and/or services in an effective manner, developing the corresponding marketing mix and focusing on the specific needs of public or private companies by applying new tools and marketing tendencies through the use of

EIGHTH SEMESTER

LMK4031 PROFESSIONAL PRACTICES I

At the end of this course, the student will be able to analyze companies' social problems, and the need for responsible and ethical practices in marketing. Once the internship is over, the student will be able to apply theoretical marketing concepts to everyday practices in the company.

LMK4041 PROFESSIONAL PRACTICES II

At the end of this course, the student will be able to apply his/her marketing academic knowledge to diagnose and solve a company's problems, with a critical and creative attitude, while being objective, ethical and socially responsible.

LMK4051 STRATEGIC AND CONSULTING MARKETING

At the end of this course, the student will be able to integrate the knowledge acquired in the development of strategic marketing plans to develop a consulting project, considering the customer's needs and expectations through the use of market intelligence to make decisions while analyzing and diagnosing the market's problems and opportunities. Also, the student will be able to collaborate and lead multi-disciplinary teams.

LMK4061 E-MARKETING

At the end of this course, the student will be able to identify Internet user's characteristics and identify profitable e-marketing strategies.



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