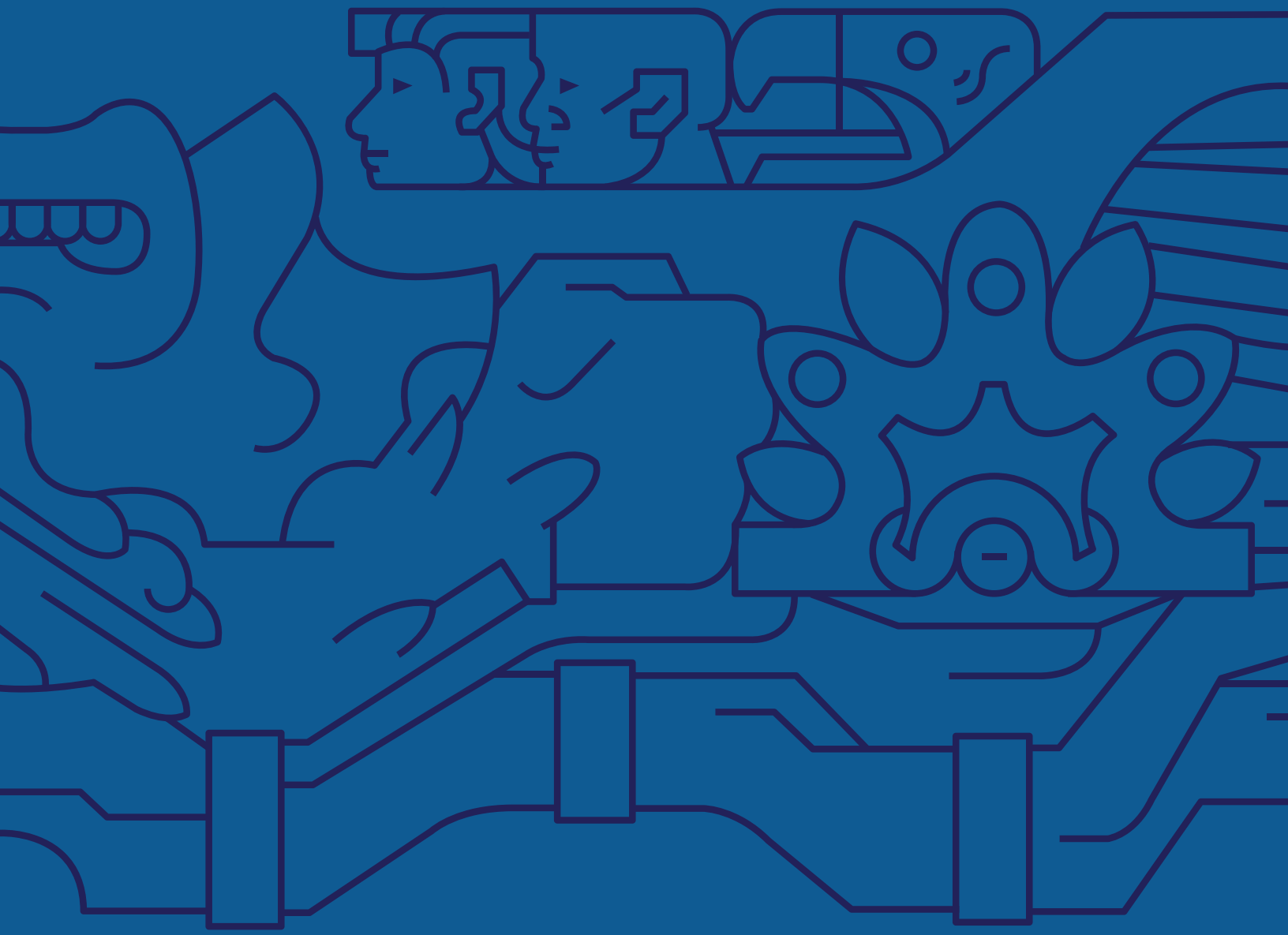
Undergraduate Programs Catalogue

TECNOLÓGICO
DE MONTERREY



UNDERGRADUATE PROGRAMS CATALOGUE

INSTITUTO TECNOLÓGICO Y DE ESTUDIOS SUPERIORES DE MONTERREY

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The photos included in this document were obtained from the archives of Tecnológico de Monterrey.

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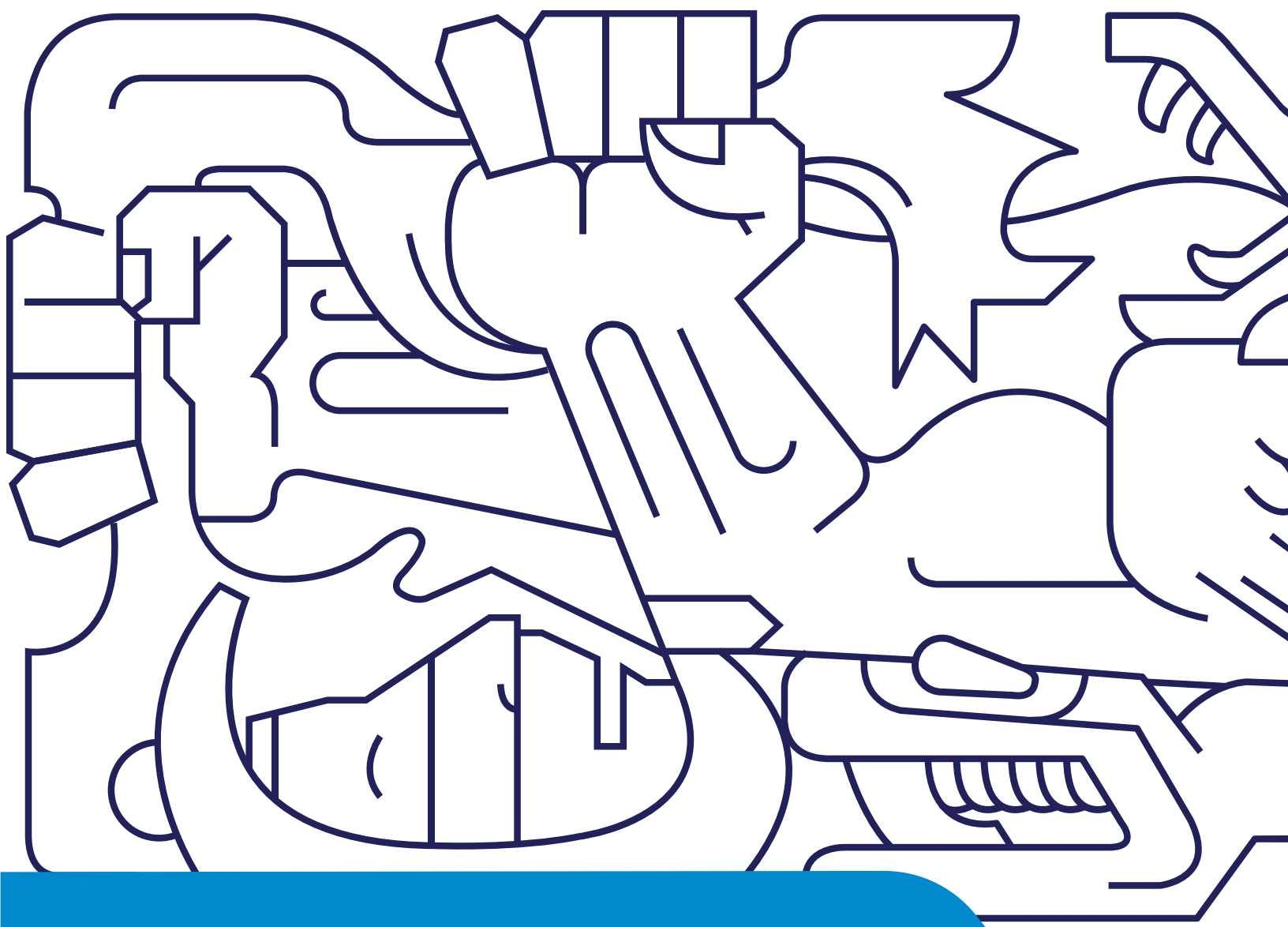
The description of the courses for all the undergraduate programs offers at Tecnologico de Monterrey is available in the Academic Vice-Rectory official web site.
(http://sitios.itesm.mx/va/planes_de_estudio/catalogos.htm)

Message from the Rector
of Tecnológico de Monterrey

It gives me great pleasure to present the **Undergraduate Programs Catalogue of Tecnológico de Monterrey.** This document describes the extensive range of academic programs offered by the Institute in the School of Architecture and Design, School of Social Sciences and Government, School of Humanities and Education, School of Engineering and Sciences, School of Medicine and Health Sciencest, and School of Business. It also provides information on the Concentrations and Modalities our students can study in addition to their degree program. Our academic programs also include the International Majors as an option for students who wish to broaden their international vision.

A brief description is included of our Educational Model, the structure of the curricula, the resources and media available to all our students, student life, the academic policies and regulations including the admissions process, and educational support and scholarships.

David Noel Ramírez Padilla
Rector of Tecnológico de Monterrey
March 2017



I. TECNOLÓGICO DE MONTERREY

I. TECNOLÓGICO DE MONTERREY

History and Evolution

Tecnológico de Monterrey was founded in 1943 thanks to the vision of Don Eugenio Garza Sada and a group of entrepreneurs who formed a non-profit association called Enseñanza e Investigación Superior, A. C.

Tecnológico de Monterrey is a private, non-profit, independent institution with no political and religious affiliations.

The work of Tecnológico de Monterrey and all its campuses is supported by civil associations comprised of a numerous group of outstanding leaders from all over the country who are committed to quality in higher education.

Every year, the board members of these associations meet to define the goals that will guide the major decisions which will help Tecnológico de Monterrey to meet its objective of driving the development of communities and the nation.

Tecnológico de Monterrey has the support of the national community, which participates in the raffles organized by the institution to expand its scholarship program and investment in infrastructure.

Tecnológico de Monterrey enjoys the status of Free University School, which enables it to function as an educational institution.

These are some of the main events that distinguish our Institution 70 years after the foundation of Tecnológico de Monterrey:

Beginning

1944 The number of students enrolled at Tecnológico de Monterrey increases from 350 to 452, while the total number of faculty members, all full-time, grows from 14 to 33. This year sees the initiation of extracurricular activities: the first student association is formed, the first basketball and soccer teams are created, and "Onda", the institution's first magazine, is published.

1945 The students adopt "El Borrego" (The Ram) as their mascot.

1947 The Monterrey Campus is inaugurated and has one thousand students this year. The first undergraduate degrees are awarded to eight students from the BS in Chemical Engineering program. The first raffle, known as Sorteo Tec, is held.

1950 Tecnológico de Monterrey is accredited by the Southern Association of Colleges and Schools (SACS), a US accrediting agency.

1954 Tecnológico de Monterrey. This mural represents the triumph of culture and work with motifs taken from pre-Cortés mythology. Later on, the Library building will become the Offices of the Presidency of Tecnológico de Monterrey.

Growth

1960 Tecnológico de Monterrey has 4,458 students from 19 countries in America and all the states of Mexico.

1963 At the beginning of this year, the first master's degree is awarded in Chemical Sciences. Twenty years after its foundation, Tecnológico de Monterrey begins to delve into two educational facets that will be of paramount importance: the use of electronic computers and educational television.

1967 The first campus outside the city of Monterrey is founded: the Guaymas Campus.

1968 This year sees the launch of the first doctoral program: the PhD in Chemistry, specializing in Organic Chemistry.

1973 Two new campuses open in other Mexican cities: the Mexico City Campus and the Ciudad Obregón Campus.

1974 The Saltillo Campus is founded.

1975 Operations start at the Eugenio Garza Sada Campus in Monterrey; and the Laguna, Querétaro and San Luis Potosí Campuses.

1976 The Chihuahua, Estado de México and Irapuato Campuses are inaugurated.

1978 Tecnológico de Monterrey now has more than 25 thousand students in 14 units throughout Mexico. The Ignacio A. Santos School of Medicine is opened next to the Hospital San José building. The León Campus becomes operational.

1980 Personal computers are introduced as a higher education tool in Mexico. The Colima, Chiapas, Guadalajara, Hidalgo and Morelos (nowadays called Cuernavaca) Campuses are opened.

1981 The Central de Veracruz and Tampico Campuses are inaugurated.

1982 The Toluca Campus begins operating.

1983 The Ciudad Juárez, Mazatlán, Sinaloa and Sonora Norte Campuses begin operating.

1985 The Zacatecas Campus is inaugurated.

Consolidation

1986 The mission "to prepare professionals with levels of excellence in their area of specialization" is defined, together with the general statutes. Tecnológico de Monterrey is formally incorporated as a multi-campus university with a new organizational structure.

Tecnológico de Monterrey is connected to the international inter-university communication network known as BITNET. The satellite telecommunications network is launched.

1989 The Center for Advanced Technology for Production (CETEC) is opened on the Monterrey Campus. Satellite transmissions are used to teach the Master's in Education with diverse specializations.

1990 The Center for Strategic Studies (CEE) is created. Courses from the master's degrees in Business Administration and Computer Studies are transmitted by satellite for Tecnológico de Monterrey faculty members, as well as three core courses, related to sociocultural values and professional practice.

Transformation

1996 Tecnológico de Monterrey defines its Mission toward 2005: To prepare individuals who are committed to the development of their communities; who are internationally competitive in their area of knowledge; and who conduct relevant research and extension studies for the development of Mexico.

1997 Universidad Virtual is created. Tecnológico de Monterrey offers its academic and continuing education programs in Mexico and Latin America. The teaching-learning redesign process begins.

1998 The Aguascalientes Campus is inaugurated. The rule was laid down that undergraduate students' social service must benefit the community.

2001 Tecnológico de Monterrey, in conjunction with diverse national and international organizations and foundations, creates the Community Learning Centers. Two new campuses begin their activities: the Cumbres Campus, in Monterrey; and the Santa Fe Campus, in Mexico City.

2002 The Morelia Campus is inaugurated.

2003 The Puebla Campus is inaugurated. The Graduate School for Public Administration and Public Policy (EGAP) is opened with sites on the Mexico City, Estado de México and Monterrey Campuses. Tecnológico de Monterrey receives the Andrew Heiskell Award 2003-2004, bestowed by the United Nations Institute of International Education, in the Outstanding Faculty Program Category.

2004 The Council for the Accreditation of Higher Education (COPAES) of the Mexican Ministry of Education recognizes Tecnológico de Monterrey as the institution of higher education with the highest number of academic programs accredited or recognized by national and international organizations. By this year, Tecnológico de Monterrey has a network consisting of 27 Business Incubators. Prepanet activities are launched to offer online high school with a few face-to-face activities to people who need to earn their high school diploma, but who for diverse reasons were unable to do so. Two new high schools are opened: one in Matamoros, Tamaulipas, and the other in Metepec, Estado de México. The Alumni and Friends Philanthropic Network begins operating in Monterrey.

2005 A new Tecnológico de Monterrey Vision is defined to be fulfilled in 2015, together with the Mission and strategies that will contribute to the realization of this new vision. Tecnológico de Monterrey is awarded the accolade given by the Ministry of the Economy to institutions who provide outstanding support to the consolidation of the National System of Business Incubation. The Family Business Institute is created and developed through an agreement between the Spanish Enterprise Institute and Tecnológico de Monterrey. The Valle Alto High School begins operating in Monterrey.

2007 The Business Accelerator Network began operations. It was created by the Institute for Sustainable Social Development to support society in the areas of education and business creation and development; academic programs in health, nutrition and housing; and professional consulting services.

2008 At the initiative of Tecnológico de Monterrey alumni, the ENLACE E+E Network was created to drive Tecnológico de Monterrey's business incubators and accelerators. The FEMSA Biotechnology Center was opened at the Monterrey Campus, focusing on three areas: Bioprocess Engineering, Food Biotechnology and Pharmaceutical Biotechnology.

2009 With FEMSA's support, the Strategic Technology Observatory opened its doors to promote business innovation and a spirit of research. Community Learning Centers were created to take quality education to underprivileged and geographically remote communities.

2010 After serving as President of the Tecnológico de Monterrey for just over 25 years, in June 2010, Dr. Rafael Rangel Sostmann tendered his resignation as President to the Board of Directors.

The EGADE programs at the Mexico City, Monterrey and Santa Fe campuses merged to form a single national school known as EGADE Business School.

2011 As of October 3, Salvador Alva Gómez took over as the new Chancellor of the Tecnológico de Monterrey. On January 1, David Noel Ramírez Padilla was appointed President of Tecnológico de Monterrey.

2012 The Zambrano Hellion Medical Center was opened in January. This new hospital center seeks to transform private medical practice in Mexico.

The Board of Directors of the Tecnológico de Monterrey announced the appointment of José Antonio Fernández Carbajal as the new Chairman of the Board, replacing Mr. Lorenzo H. Zambrano Treviño as of February 14. Mr. Fernández Carbajal became the fourth Chairman of the Board, succeeding Eugenio Garza Sada (1943-1973), Eugenio Garza Lagüera (1973-1997) and Lorenzo H. Zambrano Treviño (1997-2012).

The Monterrey Regional Presidency established the Distinguished Professor Emeritus Prize to be awarded on May 15 every year (Teachers' Day in Mexico). The first professor to receive this honor was the architect José Luis Pineda.

The Latin American Citizenship Institute was created with the aim of replicating the best civic practices of Mexico and Latin America and orientating the entrepreneurial and humanistic capacity of Tecnológico de Monterrey.

Tecnológico de Monterrey initiates a transformation to generate cultural change and a process-based approach.

The values that govern the institution's operations are defined:

- Innovation
- Global outlook
- Teamwork
- Ethics and citizenship
- Integrity

2012

As Tecnológico de Monterrey collaborators, we are committed to complying with the guidelines contained in the Code of Ethics and to making them part of our lives and daily activities.

2013

The Institution announced the new Educational Model Tec21, which will enable the development in future generations of competencies for the leaders of the 21st century. The Model is based on innovative, challenging experiences, spaces for active learning, and faculty who inspire and innovate.

The following changes were announced in the institution; Salvador Alva is now President of Tecnológico de Monterrey; there are now three instead of five regional presidencies: Northern Zone, Central-Southern Zone and Western Zone; three Vice Presidencies were created: High School, Undergraduate, and Research, Graduate and Continuing Education.

The Protein Development Research Center was created.

The Eugenio Garza Sada Institute for Entrepreneurship was founded.

2014

The Federal Government of Mexico honored Tecnológico de Monterrey with the National Entrepreneurship Award.

2016

The new organizational structure of Tecnológico de Monterrey includes the Campus Vice Presidency, which will enhance the academic and student experience processes.

The scope of the Schools has been expanded to integrate undergraduate programs as well.

Education that Transforms Lives

Multi-campus University

Nowadays, Tecnológico de Monterrey is a multi-campus university with academic sites in the diverse regions of Mexico.

The prestige enjoyed by Tecnológico de Monterrey since its foundation, stemming from the culture of entrepreneurship, work, efficiency and responsibility that it fosters its students, motivated its graduates, who come from diverse regions of Mexico, to promote the presence of Tecnológico de Mon- terrey in their hometowns.

This gave the Institution significant insight into the different needs of each region in order to prepare professionals, without uprooting them from their hometowns, with the capacity to address them. Moreover, as a nationwide, multicampus university, Tecnológico de Monterrey accepts its respon- sibility to provide a valid response to the country's foremost challenges.

Some of Tecnológico de Monterrey's alumni are now directors in successful companies in Mexico and Latin America, while the presence of its graduates in key government and public administration positions is constantly growing.

Values

At Tecnológico de Monterrey, we are governed by the values of the Tecnológico de Monterrey:

Innovation

We generate and realize ideas, break paradigms, take risks and lear from our mistakes.

Global Vision

We leave our gloal culture and fo- ment our diversity.

Teamwork

We foster collaborative work and seek collective success above that of the individual.

Sense of humanity

We respect the dignity of people and act with solidarity.

Integrity

We behave in a ethical manner, and are honest, austere and congruent.

Vision

> Tecnológico de Monterrey:
> We educate leaders with an e ntrepreneurial spirit, committed to ethics and citizenship, and who are internationally competitive.

Differentiators

The relevant characteristics that distinguish Tecnológico de Monterrey are:

- A state-of-the-art educational model, focused on developing a spirit of entrepreneurship
- Education with a sense of humanity
- The institution's prestige built on the basis of the actions of our graduates
- Relationships with alumni, companies and institutions

With these three major components (Values, Vision and Differentiators), at Tecnológico de Monterrey we recognize the need to undertake actions that will lead us toward change, to a transition targeting a better lifestyle emerging from the academic preparation of young people who care deeply about their country.

Code of Ethics

This Code of Ethics is based on the purpose of the Tecnológico de Monterrey: Education that transforms lives, and on the visions of its institutions. It is grounded in our institutional values and, in particular, a sense of humanity and integrity.

It is not, nor does it seek to be, exhaustive in relation to the ethical dilemmas that arise in the setting of our activities; therefore, it will be enriched when the requirements of daily practice so require.

As members of the organization, we are committed to channeling our actions toward the common

good and the transformation of our society. Thus, all the board members, directors, faculty, doctors and employees of the Tecnológico de Monterrey:

1. Acknowledge the dignity of people and treat them with respect and justice.
2. Treat everybody equally and shun discrimination in every form.
3. Act with integrity, honesty, responsibility, objectiveness, congruence and impartiality.
4. Recognize and respect intellectual property and others' merit.
5. Avoid any type of conflict of interest and, if any conflicts should arise, report them to the corresponding authorities.
6. Assume data transparency as a commitment and respect the confidentiality of issues as determined by the Institution.
7. Use resources in a responsible, austere and efficient manner.
8. Protect the environment.
9. Seek the benefit of the Institution above personal benefit.
10. Comply with the laws, regulations and policies that govern our activities at institutional, national and international levels.

As Tecnológico de Monterrey collaborators, we undertake to fulfill the guidelines contained in the Code of Ethics and make them part of our lives and daily actions.

Organization of Tecnológico de Monterrey

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Accreditations

The national and international academic program and institutional accreditations reflect the quality of the academic services offered and are one of the means employed by Tecnológico de Monterrey to assure and enhance its academic quality, thus consolidating its leadership position in Mexico's higher education.

Institutional Accreditations

a) International

Tecnológico de Monterrey is accredited by the Southern Association of Colleges and Schools (SACS COC, http://www.sacscoc.org) to award undergraduate, master's and doctorate degrees.

For further information on Tecnológico de Monterrey's accreditation, please contact:

Southern Association of Colleges and Schools
Comission of Colleges
1866 Southern Lane
Decatur, GA. 30033-4097
Telephone: (+1) 404-679-4500

b) National

Tecnológico de Monterrey is accredited by the Federation of Mexican Private Higher Education Institutions (FIMPES, http://www.fimpes.org.mx).

For further information on Tecnológico de Monterrey's accreditation, please contact:

Federación de Instituciones Mexicanas Particulares de Educación Superior
Río Guadalquivir No. 50 - 4° piso,
Col. Cuauhtémoc
Delegación. Cuauhtémoc. C.P. 06500
México, D.F.
Telephone: (+52) (55) 5514-5514

Program Accreditations

a) National

At January 2017 the 80% (162 de 203) of the undergraduate academic programs offered in full on each of the Tecnológico de Monterrey campuses, and which have at least three generations of graduates, have been accredited in Mexico by one of the agencies recognized by the Council for the Ac- creditation of Higher Education (COPAES), the organization that authorizes the operation of accrediting agencies for undergraduate programs.

The following COPAES-recognized agencies have accredited Tecnológico de Monterrey programs:

- Association for the Accreditation and Certification of Social Sciences (ACCECISO)
- Mexican Committee for the Accreditation of Education in Agronomy (COMEAA)
- Accreditation Council for Engineering Education (CACEI)
- Accreditation Council for Accounting and Business Administration Education (CACECA)
- Accreditation Council for Education and Research in Psychology (CNEIP)
- National Accrediting Agency for Architecture Programs and Habitable Space Disciplines (ANPADEH)
- Mexican Council for the Accreditation of Eduction in Medicine (COMAEM)
- Mexican Council for the Accreditation of Design Programs (COMAPROD)
- National Accreditation Council for Informatics and Computing (CONAIC)

- National Accreditation Council for Economic Sciences (CONACE)
- National Accreditation Council for Higher Education in Law (CONFEDE)
- Accreditation Council for Law Education (CONAED)
- Accreditation Council for Communication (CONAC)
- National Council for Quality in Nutritional Science Education Programs (CONCAPREN).

The following tables show the undergraduate programs by campus that have been accredited January, 2017

Undergraduate Programs Accredited by COPAES by Campus

Campus	Program	Description	Agency
Aguascalientes	IMT	B.S. Mechatronics Engineering	CACEI
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
Chihuahua	LAF	B.A. Financial Management	CACECA
	LIN	B.A. International Business	CACECA
	IMT	B.S. Mechatronics Engineering	CACEI
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	LED	B.A. Law	CONFEDE
	LCDE	B.A. Business Creation and Development	CACECA
Ciudad de México	IMT	B.S. Mechatronics Engineering	CACEI
	LAF	B.A. Financial Management	CACECA
	LCPF	B.A. Finance and Accounting	CACECA
	LCDE	B.A. Business Creation and Development	CACECA
	LMC	B.A. Marketing and Communication	CACECA
	LIN	B.A. International Business	CACECA
	LAE	Bachelor of Business Administration	CACECA
	LEM	B.A. Marketing	CACECA
	ARQ	B.A. of Architecture	ANPADEH
	IME	B.S. Mechanical Engineering Option E	CACEI
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	LED	B.A. Law	CONAED
	LDI	B.A. Industrial Design	COMAPROD
	IMD	B.S. Biomedical Engineering	CACEI
	ITC	B.S. Computer Science and Technology	CACEI
	LAD	B.A. Animation and Digital Art	COMAPROD
	IBT	B.S. Biotechnology Engineering	CACEI
	ITS	B.S. Telecommunications and Electronic Systems	CACEI
	LEF	B.A. Economics and Finances	CONACE
Ciudad Juárez	IMT	B.S. Mechatronics Engineering	CACEI
Cuernavaca	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	IMT	B.S. Mechatronics Engineering	CACEI
	ITC	B.S. Computer Science and Technology	CONAIC

Campus	Program	Description	Agency
Estado de México	ARQ	B.A. of Architecture	ANPADEH
	IMT	B.S. Mechatronics Engineering	CACEI
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	LDI	B.A. Industrial Design	COMAPROD
	LED	B.A. Law	CONAED
	ISC	B.S. Computer Science and Technology	CONAIC
	IME	B.S. Mechanical Engineering Option E	CACEI
	LRI	B.A. International Relations	ACCECISO
	LEM	B.A. Marketing	CACECA
	LPO	B.A. Organizational Psychology	CNEIP
	LAF	B.A. Financial Management	CACECA
	CPF	B.A. Finance and Accounting	CACECA
	LAE	Bachelor of Business Administration	CACECA
	LIN	B.A. International Business	CACECA
Guadalajara	ARQ	B.A. of Architecture	ANPADEH
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	IMT	B.S. Mechatronics Engineering	CACEI
	LDI	B.A. Industrial Design	COMAPROD
	ITE	B.S. Electronic and Computer Engineering	CACEI
	LCDE	B.A. Business Creation and Development	CACECA
	IC	B.S. Civil Engineering	CACEI
	IMD	B.S. Biomedical Engineering	CACEI
	IBT	B.S. Biotechnology Engineering	CACEI
Hidalgo	LAE	Bachelor of Business Administration	CACECA
	LCPF	B.A. Finance and Accounting	CACECA
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	ITIC	B.S. Information and Communication Technologies	CONAIC
Laguna	LIN	B.A. International Business	CACECA
	IMT	B.S. Mechatronics Engineering	CACEI
	LAF	B.A. Financial Management	CACECA
	LCDE	B.A. Business Creation and Development	CACECA
	LDI	B.A. Industrial Design	COMAPROD
León	LAF	B.A. Financial Management	CACECA
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	IMT	B.S. Mechatronics Engineering	CACEI
	LIN	B.A. International Business	CACECA
Monterrey	ARQ	B.A. of Architecture	ANPADEH
	LEC	B.A. Economics	CONACE
	LPO	B.A. Organizational Psychology	CNEIP
	LPL	B.A. Political Science	ACCECISO
	LRI	B.A. International Relations	ACCECISO
	LMI	B.A. Journalism and Media Studies	CONAC
	IMT	B.S. Mechatronics Engineering	CACEI
	IQA	B.S. Chemical Engineering Option A	CACEI
	IQP	B.S. Chemical Engineering Option S	CACEI
	IIA	B.S. Food Industry Engineering	CACEI
	IME	B.S. Mechanical Engineering Option E	CACEI

Campus	Program	Description	Agency
Monterrey	IC	B.S. Civil Engineering	CACEI
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	IMA	B.S. Mechanical Engineering Option A	CACEI
	LED	B.A. Law	CONFEDE
	IFI	B.S. Engineering Physics	CACEI
	MC	Physician & Surgeon	COMAEM
	LAE	Bachelor of Business Administration	CACECA
	LAF	B.A. Financial Management	CACECA
	LIN	B.A. International Business	CACECA
	LCPF	B.A. Finance and Accounting	CACECA
	LEM	B.A. Marketing	CACECA
	IMD	B.S. Biomedical Engineering	CACEI
	IBT	B.S. Biotechnology Engineering	CACEI
	ITC	B.S. Computer Science and Technology	CONAIC
	LNB	B.A. Nutrition and Wellness	CONCAPREN
	ISD	B.S. Digital Systems and Robotics Engineering	CACEI
	INT	B.S. Business Informatics	CONAIC
	LCMD	B.A. Communication and Digital Media	CONAC
Puebla	ITC	B.S. Computer Science and Technology	CACEI
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	IMA	B.S. Mechanical Engineering Option A	CACEI
	IMT	B.S. Mechatronics Engineering	CACEI
	LAF	B.A. Financial Management	CACECA
	LIN	B.A. International Business	CACECA
	LAE	Bachelor of Business Administration	CACECA
	LED	B.A. Law	CONAED
	ARQ	B.A. of Architecture	ANPADEH
	LCDE	B.A. Business Creation and Development	CACECA
	LAD	B.A. Animation and Digital Art	COMAPROD
	LRI	B.A. International Relations	ACCECISO
	LDI	B.A. Industrial Design	COMAPROD
Querétaro	IMA	B.S. Mechanical Engineering Option A	CACEI
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	LAE	Bachelor of Business Administration	CACECA
	LIN	B.A. International Business	CACECA
	LCPF	B.A. Finance and Accounting	CACECA
	LDI	B.A. Industrial Design	COMAPROD
	IA	B.S. Agronomy Engineering	COMEAA
	ISC	B.S. Computer Science and Technology	CACEI
	IMT	B.S. Mechatronics Engineering	CACEI
	IIA	B.S. Food Industry Engineering	CACEI
	ARQ	B.A. of Architecture	ANPADEH
	LRI	B.A. International Relations	ACCECISO
	IBT	B.S. Biotechnology Engineering	CACEI
	IC	B.S. Civil Engineering	CACEI
	LCDE	B.A. Business Creation and Development	CACECA
	LAF	B.A. Financial Management	CACECA
	LAD	B.A. Animation and Digital Art	COMAPROD
	LCMD	B.A. Communication and Digital Media	CONAC
	LMC	B.A. Marketing and Communication	CACECA

Campus	Program	Description	Agency
Saltillo	LIN	B.A. International Business	CACECA
	IMT	B.S. Mechatronics Engineering	CACEI
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
San Luis Potosí	LIN	B.A. International Business	CACECA
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	IMT	B.S. Mechatronics Engineering	CACEI
Santa Fe	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	IMT	B.S. Mechatronics Engineering	CACEI
	LAE	Bachelor of Business Administration	CACECA
	LAF	B.A. Financial Management	CACECA
	LIN	B.A. International Business	CACECA
	ITC	B.S. Computer Science and Technology	CACEI
	LCDE	B.A. Business Creation and Development	CACECA
Sinaloa	LIN	B.A. International Business	CACECA
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	LAF	B.A. Financial Management	CACECA
Sonora Norte	LIN	B.A. International Business	CACECA
	ARQ	B.A. of Architecture	ANPADEH
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	IMT	B.S. Mechatronics Engineering	CACEI
	LCDE	B.A. Business Creation and Development	CACECA
Tampico	LIN	B.A. International Business	CACECA
	ITIC	B.S. Information and Communication Technologies	CACEI
	IMT	B.S. Mechatronics Engineering	CACEI
Toluca	IMT	B.S. Mechatronics Engineering	CACEI
	ARQ	B.A. of Architecture	ANPADEH
	IMA	B.S. Mechanical Engineering Option A	CACEI
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	CACEI
	LAE	Bachelor of Business Administration	CACECA
	LCPF	B.A. Finance and Accounting	CACECA
	LEM	B.A. Marketing	CACECA
	LIN	B.A. International Business	CACECA
	ISC	B.S. Computer Science and Technology	CACEI
	LED	B.A. Law	CONAED

b) International

In addition, some of Tecnológico de Monterrey's programs have been accredited by the following international organizations:

- Accreditation Board for Engineering and Technology (ABET).
  111 Market Place, Suite 1050,
  Baltimore MD 21202-4012.
  United States of America
  Telephone: (+01)410-3477700
  www.abet.org

- Institute of Food Technologists (IFT)
  Committee on Higher Education.
  525 W. Van Buren, Suite 1000
  Chicago, IL. 60607 Telephone: (+1) 312 782 8424.
  www.ift.org

- Latin American Accrediting Council on Education in Journalism (CLAEP).
  1801 S.W. 3rd Avenue Miami, FL. 33129
  Telephones: (+1) 305 634 2465. (+1) 305 635 2272.
  www.claep.org

- The Accrediting Council on Education in Journalism and Mass Communications (ACEJMC) 1435 Jayhawk Blvd.
  Lawrence, KS 66045
  Telephone: (+1) 785 864 3973

- National Association of Schools of Art and Design (NASAD)
  11250 Roger Bacon Drive, Suite 21 Reston,
  VA 20190-5248
  Telephone: 703-437-0700
  http://nasad.arts-accredit.org/

This list shows Tecnológico de Monterrey's undergraduate programs accredited by international organizations, at January 2017, in the academic areas indicated:

Undergraduate Programs Accredited by International Agencies, by Campus

Campus	Program	Description	Agency
Chihuahua	IMT	B.S. Mechatronics Engineering	ABET
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	ABET
Ciudad de México	IMT	B.S. Mechatronics Engineering	ABET
	IME	B.S. Mechanical Engineering Option E	ABET
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	ABET
	ITC	B.S. Computer Science and Technology	ABET
Estado de México	IIS	B.S. Industrial Engineering with minor in Systems Engineering	ABET
	ISC	B.S. Computer Science and Technology	ABET
	IME	B.S. Mechanical Engineering Option E	ABET
	IMT	B.S. Mechatronics Engineering	ABET
Guadalajara	IIS	B.S. Industrial Engineering with minor in Systems Engineering	ABET
	IMT	B.S. Mechatronics Engineering	ABET
Monterrey	LMI	B.A. Journalism and Media Studies	CLAEP & ACEJMC
	IIA	B.S. Food Industry Engineering	ABET / IFT
	IC	B.S. Civil Engineering	ABET
	IFI	B.S. Engineering Physics	ABET
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	ABET
	IMA	B.S. Mechanical Engineering Option A	ABET
	IME	B.S. Mechanical Engineering Option E	ABET
	IMT	B.S. Mechatronics Engineering	ABET
	IQA	B.S. Chemical Engineering Option A	ABET
	ITC	B.S. Computer Science and Technology	ABET
	IQP	B.S. Chemical Engineering Option S	ABET
	IBT	B.S. Biotechnology Engineering	ABET
	ISD	B.S. Digital Systems and Robotics Engineering	ABET
	INT	B.S. Business Informatics	ABET
	LCD	B.A. Communication and Digital Media	ACEJMC
Querétaro	IMA	B.S. Mechanical Engineering Option A	ABET
	IMT	B.S. Mechatronics Engineering	ABET
	LDI	B.A. Industrial Design	NASAD
	IIS	B.S. Industrial Engineering with minor in Systems Engineering	ABET
San Luis Potosí	IIS	B.S. Industrial Engineering with minor in Systems Engineering	ABET

The latest information on institutional accreditations and academic programs of Tecnológico de Monterrey is available on the institution's website: http://www.itesm.edu, under Nosotros- Acreditaciones.

Campus Directory

Tecnológico de Monterrey has 26 campuses nationwide, which are listed below together with their contact information.

Aguascalientes Campus
Campus Director:
Lic. Agustín Mateo Arredondo Corrales
agustin.mateo@itesm.mx
Av. Eugenio Garza Sada # 1500
Aguascalientes, Aguascalientes, C.P. 20328
Teléfono: +52 (449) 910-0900
http://www.ags.itesm.mx

Central de Veracruz Campus
Campus Director:
Lic. Mauricio García Ballinas
mauricio.garcia@itesm.mx
Av. Eugenio Garza Sada # 1
Col. Las Quintas
Córdoba, Veracruz, C.P. 94500
Teléfono: +52 (271) 717-0500
http://www.ver.itesm.mx

Chiapas Campus
Campus Director:
C.P. Manuel de Jesús Villalobos García
mvillalobos@itesm.mx
Carretera Tapanatepec Km. 149 + 746
Col. Juan Crispín
Tuxtla Gutiérrez, Chiapas, C.P. 29020
Teléfono: +52 (961) 617-6000
http://www.chs.itesm.mx

Chihuahua Campus
Campus Director:
Dr. Rodolfo Julio Castello Zetina
rodolfo.castello@itesm.mx
Av. Heróico Colegio Militar # 4700
Col. Nombre de Dios
Chihuahua, Chihuahua., C.P. 31300
Teléfono: +52 (614) 439 5000
http://www.chi.itesm.mx

México City Campus
Vice President and Campus Director:
Dr. Pedro Luis Grasa Soler
grasa@itesm.mx
Calle del Puente # 222, esq. Periférico Sur
Col. Ejidos de Huipulco, Delegación Tlalpan
México, D.F., C.P. 14380
Teléfono: +52 (55) 5483-2020
http://www.ccm.itesm.mx

Ciudad Juárez Campus
Campus Director:
Arq. Carlos Bejos Acevo
cbejos@itesm.mx
Blvd. Tomás Fernández Campos # 8945
Parque Industrial Antonio J. Bermúdez
Ciudad Juárez, Chihuahua, C.P. 32470
Teléfono: +52 (656) 629-9100
http://www.cdj.itesm.mx

Ciudad Obregón Campus
Campus Director:
Master Claudia Margarita Félix Sandoval
c.felix@itesm.mx
California # 2100 Nte.
Col. Obregón Norte
Ciudad Obregón, Sonora, C.P. 85010
Teléfono: +52 (644) 410-5700
http://www.cob.itesm.mx

Cuernavaca Campus
Campus Director:
Dr. José Carlos Miranda Valenzuela
jmiranda@itesm.mx
Autopista del Sol Km 104
Col. Real del Puente
Xochitepec, Morelos, C.P. 62790
Teléfono: +52 (777) 362 0800
http://www.cva.itesm.mx

Estado de México Campus
Vice President and Campus Director:
Dr. Pedro Luis Grasa Soler
grasa@itesm.mx
Carretera Lago de Guadalupe Km. 3.5
Atizapán de Zaragoza, Estado de México, C.P. 52926
Teléfono: +52 (55) 5864-5555
http://www.cem.itesm.mx

Guadalajara Campus
Vice President and Campus Director:
Dr. Mario Adrián Flores Castro
adrian.flores@itesm.mx
Ave. Gral. Ramón Corona # 2514
Col. Nuevo México, Zapopan, Jalisco, C.P. 45201
Teléfono: +52 (33) 3669-3000
http://www.gda.itesm.mx

Hidalgo Campus
Campus Director:
C.P. Claudia Gallegos Cesaretti
cgallego@itesm.mx
Blvd. Felipe Ángeles # 2003, Col. Venta Prieta
Pachuca, Hidalgo, C.P. 42080
Teléfono: +52 (771) 717-02-14
http://www.hgo.itesm.mx

Irapuato Campus
Campus Director:
Ing. Javier Benavides Ornelas
javier.benavides@itesm.mx
Paseo Mirador del Valle # 445, Col. Villas de Irapuato
Irapuato, Guanajuato, C.P. 36670
Teléfono: +52 (462) 606-8000
http://www.ira.itesm.mx

Laguna Campus
Campus Director:
Ing. Martín López Méndez
lopezmendez@itesm.mx
Paseo del Tecnológico # 751
Col. Ampliación la Rosita
Torreón, Coahuila, C.P. 27250
Teléfono: +52 (871) 729-6363
http://www.lag.itesm.mx

León Campus
Campus Director:
Dr. Isaac Lucatero Castañeda
isaac.lucatero@itesm.mx
Av. Eugenio Garza Sada S/N
Col. Cerro Gordo
León, Guanajuato, C.P. 37190
Teléfono: +52 (477) 710-9000
http://www.leo.itesm.mx

Monterrey Campus
Campus Director:
Ing. Víctor Eduardo Gutiérrez Aladro
victor.gutierrez@itesm.mx
Av. Eugenio Garza Sada #2501 Sur
Col. Tecnológico
Monterrey, Nuevo León, C.P. 64849
Teléfono: +52 (81) 8358-2000
http://www.mty.itesm.mx

Morelia Campus
Campus Director:
Dr. Edgar Montalvo Escamilla
edgar.montalvo@itesm.mx
Camino a Jesús del Monte S/N
Col. Jesús del Monte
Morelia, Michoacán, C.P. 58350
Teléfono: +52 (443) 322-6800
http://www.cmr.itesm.mx

Puebla Campus
Campus Director:
Ing. Rashid Abella Yunes
rabella@itesm.mx
Vía Atlixcayotl # 2301
Col. San Andrés, Cholula, Puebla, C.P. 72800
Teléfono: +52 (222) 303-2000
http://www.pue.itesm.mx/

Querétaro Campus
Campus Director:
Ing. Romeo Salvador Coutiño Audiffred
scoutino@itesm.mx
Av. Epigmenio González # 500
Fraccionamiento San Pablo
Querétaro, Querétaro, C.P. 76130
Teléfono: +52 (442) 238-3100
http://www.qro.itesm.mx

Saltillo Campus
Campus Director:
Lic. Angelberto Guardado Astorga
aguardad@itesm.mx
Prol. Juan de la Barrera # 1241 Ote.
Col. Cumbres
Saltillo, Coahuila, C.P. 25270
Teléfono: +52 (844) 411-8000
http://www.sal.itesm.mx

San Luis Potosí Campus
Campus Director:
Dr. Héctor Morelos Borja
hmorelos@itesm.mx
Av. Eugenio Garza Sada # 300
Fracc. Lomas del Tecnológico
San Luis Potosí, San Luis Potosí, C.P. 78211
Teléfono: +52 (444) 834-1000
http://www.slp.itesm.mx

Santa Fe Campus
Campus Director:
Dr. Pedro Luis Grasa Soler
grasa@itesm.mx
Ave. Carlos Lazo # 100
Col. Lomas de Santa Fe,
Delegación Álvaro Obregón
México, D.F., C.P.01389
Teléfono: +52 (55) 9177-8000
http://www.csf.itesm.mx

Sinaloa Campus
Campus Director:
Ing. Isidro Cavazos de León
icavazos@itesm.mx
Blvd. Pedro Infante # 3773 Pte.
Culiacán, Sinaloa, C.P. 80100
Teléfono: +52 (667) 759-1600
http://www.sin.itesm.mx

Sonora Norte Campus
Campus Director:
Dr. Francisco Javier Quezada Andrade
jquezada@itesm.mx
Blvd. Enrique Mazón López # 965
Hermosillo, Sonora, C.P. 83000
Teléfono: +52 (662) 259-1000
http://www.her.itesm.mx

Tampico Campus
Campus Director:
Ing. Marco Edgar Vargas Herrada
marco.vargas@itesm.mx
Blvd. Petrocel Km. 1.3 Puerto Industrial
Altamira, Tamaulipas, C.P. 89600
Teléfono: +52 (833) 229-1600
http://www.tam.itesm.mx

Toluca Campus
Campus Director:
Ing. Juan Carlos Arreola Rivas
juan.carlos.arreola@itesm.mx
Eduardo Monroy Cárdenas # 2000
San Antonio Buenavista
Toluca, Estado de México, C.P. 50110
Teléfono: +52 (722) 279-9990
http://www.tol.itesm.mx

Zacatecas Campus
Campus Director:
Ing. Miguel Ángel Burgoin Carrera
miguel.burgoin@itesm.mx
Ave. Pedro Coronel # 16
Col. Dependencias Federales
Guadalupe, Zacatecas, C.P. 98600
Teléfono: +52 (492) 925-6820
http://www.zac.itesm.mx

Educational Model Tec 21

The educational model of Tecnológico de Monterrey comprises a set of structured components through which the institution fulfills its students' educational goals. It integrates the aims of the Institutional Vission and the values it promotes, the pedagogical practices that make it operational, and the supporting mechanisms and resources.

Characteristics of the Educational Model

- Academic content that encompasses an education in science, technology, humanism, ethics and citizenship.
- Use of teaching techniques that provide a practical approach to our students' education and offer them the opportunity to analyze and propose answers to complex real-world and work-environment problems. These techniques include: Collaborative Learning, Problem-based Learning, Project-oriented Learning, Case Method, Service Learning and Research-based Learning.
- Development of our students' capacity for self-directed research and learning, as a result of their active participation in the educational process. This will enable them to keep up-to-date throughout their professional lives.
- Use of the most advanced information technologies as learning support tools.
- A comprehensive educational approach complemented by co-curricular activities in student leadership, cultural diffusion and physical education.

Through the Educational Model Initiative Tec 21, our educational model adapts to the times, fulfilling its purpose of driving the skills of current

generations, in order to educate leaders with an entrepreneurial spirit, ethics and citizenship and who are internationally competitive. This will enable our students to face up to the challenges of a world that has yet to be invented.

Characteristics that Enrich Our Educational Model

Faculty who are innovative and up-to-date in their discipline, have experience in their professional practice (liaison) and incorporate technology in the teaching-learning process.

Challenging, interactive learning experiences in the new educational spaces.

Flexibility in how, when and where the teaching-learning process takes place.

The following is a description of the characteristics of the diverse programs through which Tecnológico de Monterrey educates its students; the academic processes that form the framework of their personal and professional development; the resources that support and facilitate these processes; and the quality assurance schemes for the Institution's overall academic operations.

Student Learning Development Process

The main characteristic of Tecnológico de Monterrey's educational process is the active role played by students in their own education. By becoming actively involved in this process, students develop the capacity for self-directed learning, which is indispensable for innovating and staying up to date throughout their professional lives. Moreover, while studying at the Institution, students develop a series of personal competencies that enable them to attain a comprehensive education. The following is a list of the main elements that distinguish Tecnológico de Monterrey educational process:

◆ Active Learning

The environment at Tecnológico de Monterrey is designed to offer students multiple opportunities to participate actively in their professional and personal preparation process. Through the institution-wide use of diverse teaching techniques, such as problem-based learning, project-oriented learning, collaborative learning, service-learning, case method and research-based learning, among others, students play a purposeful, structured role in the construction of their knowledge and the development of the competencies described in the graduate profile and the Mission. In this context, students can discover process and apply knowledge in a relevant, significant way both inside and outside the classroom.

◆ Self-regulated Learning

A key objective of Tecnológico de Monterrey's learning model is for students to develop the skills needed to achieve lifelong learning. Therefore, in their courses, they repeatedly face challenging, highly academically demanding educational situations, which motivate them to gradually develop the capacity to regulate their learning, setting goals and reflecting on their achievements.

Throughout this process, the students are constantly guided and supported by their teachers and by the huge range of physical, technological and human resources offered by the Institution.

◆ Comprehensive Education

Comprehensive education is based on the idea of developing in students the diverse human dimensions. With this aim, the educational model contemplates the development of competencies for reflecting on, analyzing and evaluating the social, economic, political and ecological reality, from both personal and professional perspectives; respect for others and for the environment; acting with solidarity and responsibility to enhance the quality of life of the country and the world. Tecnológico de Monterrey's comprehensive education is based on its academic programs, cross-curriculum strategies and a variety of co-curricular activities.

◆ Teaching Techniques

Just as the greatest care is employed when designing the programs' curricula and selecting the content, Tecnológico de Monterrey's academic activity is characterized by the use of teaching techniques that add a practical and professional approach to the students' academic training, while developing their personal competencies. Although techniques to support teaching have always been used at Tecnológico de Monterrey, the Institution formalized a faculty training program in this area to strength-

en the implementation of its educational model and strongly promote its application in each of the courses offered.

There are many teaching techniques and just as many ways of classifying them. In the same way, at an institutional level, the faculty select the techniques that they consider to be the most appropriate for their teaching objectives. The most commonly used techniques are:

- Collaborative Learning
- Problem-based Learning
- Project-oriented Learning
- Case Method
- Service-Learning
- Research-based Learning

◆ The Professor as a Learning Facilitator and Guide

The faculty profile underscores their outstanding preparation within their professional fields, as well as the intensive teacher training fomented by the Institution that enables the professors to design and guide carefully structured teaching processes in which students will achieve the maximum benefit of their participation.

Internationalization

Students' academic preparation is broadened with internationalization experiences that enrich their academic life by offering a more global insight.

The internationalization component helps students to enrich their academic life with more global experiences, through academic, cultural and linguistic exchange, and also to take a major step towards achieving personal maturity.

Students are offered the internationalization experience through:

- Participation in academic experiences in prestigious overseas universities and academic institutions for periods of two semesters, one semester, one intensive course or a specific academic trip.

- Socializing with and meeting students from other countries who are studying at one of Tecnológico de Monterrey's campuses.

- Attendance at conferences offered by qualified scholars from foreign universities who have been invited as visiting professors to Tecnológico de Monterrey or who participate in satellite sessions or online courses.

- Participation in projects conducted in association with groups of students from foreign universities through the facilities offered online.

Undergraduate Programs

Tecnológico de Monterrey offers a wide variety of undergraduate programs and specializations indifferent academic areas.

In view of the demands of an increasingly complex, globalized society and a changing, competitive environment, Tecnológico de Monterrey considers that the education offered by universities should go beyond vocational competencies. This implies providing students with a comprehensive education that will enable them, on graduating, to address the diverse professional, personal and citizenship challenges that will arise throughout their lives. The importance attached by Tecnológico de Monterrey to comprehensive education is clearly portrayed in its institutional Vision and Mission.

The undergraduate curricula include the following components:

a. General Education

Apart from the occupational competencies specific to their profession, each of the programs includes objectives that focus on the development of the following general competencies in students:

Communication competencies:

- Displays communication skills by using language appropriately as a learning, reflection and communication instrument in both academic and professional settings. Is proficient in English, including reading and writing and oral comprehension skills, at a level that enables the student to perform in international academic settings.

Ethical competencies:

- Reflects on, analyzes and evaluates ethical dilemmas related to themselves, their professional practice and their environment.

- Respects people and the environment.

Humanistic competencies:

- Appreciates and analyzes diverse artistic and cultural expressions that contribute to the student's understanding of the world and of his or her social and personal reality.

Citizenship competencies:

- Knows and is aware of the social, economic and political reality.

- Acts with solidarity and civic responsibility to improve the quality of life in the community, particularly deprived communities.

Mathematics competencies:

- Displays adequate mathematical reasoning skills, and uses them to solve problems.

Entrepreneurship competencies:

- Carries out the necessary actions to realize innovative ideas with the resources available, seeking to generate the greatest possible value, assessing their feasibility and the risks involved.

In order to develop these competencies, since 2011 Tecnológico de Monterrey's curricula have included ten courses distributed as follows:

Area of Humanities and Fine Arts (at least three courses)

Two courses of Ethics required for all majors

Code	Name	Options for
H1018	Ethics, Self and Society	All majors
HS2006	Applied Ethics	All majors. Except: LCE, LNB,MC
MC3093/ MC3096	Bioethics/ Clinical Bioethics	Exclusive for LCE, LNB, MC

One course of Humanities and Fine Arts is required for all majors

Code	Name	Options for
AR1007	History of Architecture and the City I	All majors. Required course for ARQ
CO1005	Media, Culture and Society	All majors
DL1009	Creativity and Innovation	All majors
H1031	Contemporary Art and Culture	All majors. Required course for LAD
H1032	Mexican Identity and Culture	All majors. Required course for LDI
H1036	Creative Writing	All majors
H1037	Film, Literature and Culture	All majors
H1039	Beliefs Systems and Globalization	All majors
H1041	Music and Society	All majors
H1044	Music Appreciation I	All majors
H1053	Art and Intercultural	All majors
H2003	Contemporary Art and Society	All majors
H2006	Contemporary Literature and Society	All majors
H2019	Contemporary World Literature	All majors

Area of Social and Behavioral Sciences (at least 2 courses)

One course of Citizenship required for all majors

Code	Name	Options for
H2004	Citizenship: Social and Political Practice	All majors. Required course for LHCS, LPL, LRI
H2027	Social Responsibility and Citizenship	All majors
P2007	Society, Development and Citizenship in Mexico	All majors
P2012	Citizenship and Democracy	All majors
P3011	Civil Society and Citizen Participation	All majors. Required course for LHCS, LPL, LRI.

One course of Entrepreneurship required for all majors

EM1006	Social Entrepreneurship	All majors
EM3004	Leadership for Entrepreneurial Development	All majors
ES3000	Microenterprise Planning for Social Development	All majors

Area of Natural Science And Mathematics (at least 1 course)		
Code	**Name**	**Options for**
MA1008	Statistics for Research in the Social Sciences	All majors. Required course for Social Science Programs (LCMD, LCS, LDP, LLE, LMI, LPM, LPL, LP, LPS, LRI)
MA1009	Mathematics for Design	All majors. Required course for ARQ,LDI, LCMD11
MA1015 / MA1016	Mathematics I	All majors. Required course for ARQ, LDI, LCMD, Health programs and Social Science Programs
MD1015	Biostatistics	All majors. Required course for (LNB, MC, MO)

In order to fulfill 10 courses of General Education, all students are required to accredit four additional courses from the following list:

Other courses in the area of Humanities and Fine Arts		
Code	**Name**	**Options for**
AR1010	History of Architecture and the City II	All majors. Required course for ARQ
AR1013	Drawing All majors.	Required course for ARQ, LDI, LAD
AT1001	Artistic Drawing	All majors. Required course for LDI, LAD
H1026	Philosophy and Contemporary Thought	All majors. Required course for all majors in Social Science (except: LP, LPO)

Other courses in the area of Social and Behavioral Sciences		
Code	**Name**	**Options for**
CO1007	Communication, Signs and Signification	All majors
CC1014	Psychology	All majors
CO2004	Qualitative Research Methods	All majors
D1023	Roman Law	All majors
EC1008	Enterprise Economics	All majors
EC1009	Macroeconomic Environment	All majors
EC1010	Economy to Business Creation	All majors
H2033	Social Anthropology	All majors

Other courses in the area of Natural Science and Mathematics		
Code	**Name**	**Options for**
CO2003	Quantitative Social Research Methods	All majors
DS1003	Natural Sciences and Sustainable Development	All majors
F1002	Physics I	All majors
F1003	Physics II	All majors
F1005	Electricity and Magnetism	All majors
Q1001	Chemistry	All majors
MA1006	Probability and Statistics	All majors
MA1017/ MA1018	Mathematics II	All majors
MD1029	Chemical Foundations of Metabolism and Physiology	All majors
MD1030	Metabolism and Functional Biochemistry	All majors
MD1031	Cell Biology	All majors

Area of support for the Vision (3 courses required for all majors)		
Code	**Name**	**Options for**
H1016	Foreign Language	All majors
H1040	Analysis and Verbal Expression	All majors
H2001	Verbal Expression in the Workplacel	All majors

Note: Students could choose other courses (not included in this table) depending on the options available according to their career and campus, as long as they are authorized by the Academic Vice-Rectory.

b. Basic Core Courses

These courses are shared by several undergraduate programs and are offered in the areas of administration, health sciences, social sciences, humanities and engineering.

c. Discipline Courses

These courses are the core courses for each undergraduate program.

d. Relationships with Regional Companies or Organizations

These relationships are achieved through the Development Support Courses (CAD) based on the practical learning methodology in which students complete a project for a company or institution, under the guidance of a professor with experience in leading projects or consulting processes, who acts as the teaching-learning facilitator. The outcome is significant learning in students and a direct benefit for the company or organization. In these courses, the educational process focuses on developing the skills and qualities needed to enrich students' professional work with actions that reflect responsibility for themselves and for the rest of society.

One of the key characteristics of the CAD courses is that the time devoted to the project represents at least 70% of the course's total academic load.

e. Elective Courses

The elective courses give students the opportunity to broaden their professional vision through diverse classes or a modality. The modalities are academic options consisting of a set of courses and learning experiences that enrich students' preparation by providing them with knowledge and skills in a discipline that complements their degree program or that aims to enhance the skills, attitudes and values described in the graduate profile. Elective courses also allow students to engage in research, internationalization or university-business relationship programs.

f. Comprehensive Education

Tecnológico de Monterrey foments the comprehensive education of its students by giving them the opportunity to participate in a variety of student activities that promote the development of the values, attitudes and skills stated in the institutional Vision and Mission.

g. Community Social Service

Tecnológico de Monterrey has instituted a Community Social Service program which forms part of the Social Service mandated by law in Mexico as a graduation requirement. The aim of this program is to help students to become aware of the country's social reality by participating in programs that generate social, economic and educational development in needy communities and institutions.

h. Modalities

At Tecnológico de Monterrey, students can achieve their full potential in keeping with their interests, while studying for their degree, through the option of electing a modality that will train them in a complementary discipline and provide the opportunity to obtain a certificate in addition to their bachelor's degree diploma.

Characteristics of the Modalities

- They are optional for students.
- They begin from the fourth semester and do not imply additional requirements (although there are some exceptions).
- They offer students a special approach by providing the opportunity to attend workshops, summer school and study abroad, study their topics and some courses in a discipline of their interest.

The modalities students can choose from are:

- Bicultural
- Consultancy
- Entrepreneurship
- Entrepreneurial Families
- Research and Innovation
- Professional experience
- Leadership for social development

i. Concentrations

The professional concentrations furnish knowledge and skills in a discipline that complements the students' major, or in areas related to the degree program in order to enhance their learning. Unlike the modalities, concentrations do not require prior workshop attendance or internships.

Characteristics of the Concentrations

The total academic load is 48 units, distributed as follows:

- Four or five courses, each with an academic load of 8 units.
- One or two capstone projects, each with an academic load of 8 units and to be completed in an organization assigned in accordance with the area of concentration.
- The courses that comprise the concentrations provide credit for the variable courses (identified in the curricula as "Topics").
- Concentrations can be studied as of the fifth semester.

Students can choose one of the following concentrations:

Administration and Finance

- Service Management
- Bank Management
- Retail Management
- Retail
- Business Creation
- Marketing and Sales
- Private Law
- Public Law
- Innovation
- Family Businesses and Wealth Generation
- Financial Analysis and Investment Management
- Financial Markets
- Business Finance
- Finance
- Pharmaceutical Management
- Hospitality Management
- International Business
- Knowledge Management
- Logistics
- Interactive Marketing
- Marketing Strategies
- Marketing
- International Entrepreneurship
- International Accounting
- Small Business Management
- Promotion and Advertising
- Human Resource Management
- Global Supply Chain Management

Health Sciences

- Biomedical Microtechnology

Humanities and Social Sciences

- Latin American Art
- Global Affairs
- Political Science
- Communication and Public Relations
- International Cooperation for Development
- Literary Creation
- Editorial Project Creation
- Political Studies
- Contemporary Literature and Discourse
- Music

- Journalism
- Film Production
- Audiovisual Media Production

Engineering and Architecture
- Agricultural Engineering
- Construction Management
- Environment and Sustainable Development
- Agribusiness
- Aeronautical Engineering
- Biobusiness
- Quality and Production
- Aeronautical Design and Manufacturing
- Design and Manufacturing
- Automotive Styling
- Automotive Mechanical Design
- Environmental Management and Administration
- Automotive Engineering
- Agroindustrial Engineering
- Health Systems Engineering
- Process Enhancement in the Automotive Industry
- Automotive Mechatronics
- Engineering Works
- Robotics
- Supervision and Advanced Control
- Agri-food Production Systems
- Plastics and Resin Technologies
- Animation and Visual Effects
- Interior Architecture
- Jewelry Design, Manufacturing and Commercialization
- Biopharmaceutical Processs

Information Technologies and Electronics
- Business Intelligence
- Applied Robotics
- Intelligent Systems

Resources and Media

◆ Information and Communication Technologies

In an era of major advancements in the development and use of information and communication technologies, Tecnológico de Monterrey promotes their use with the twofold aim of bringing students into contact with these tools, as a competitive advantage in their professional education and, at the same time, making the most of all the support resources available to enrich the teaching-learning process.

◆ Tecnológico de Monterrey Library Network

In order to support the learning, research and social development activities in which students and faculty participate, Tecnológico de Monterrey has a solid collection of printed and digital information resources made available through the 32 libraries distributed in each of its campuses and a Digital Library.

As a result of the collection development program, the Tecnológico de Monterrey Library Network collection continued to be enriched during 2016 through the acquisition of 313,883 volumes (41,765 physical and 272,118 digital), reaching a total printed and digital bibliographic collection of 4.3 million volumes– 2,894,385 physical and 1,411,911 digital – available for the academic community. The collection includes books, eBooks, encyclopedias, discs, videos, magazines and journals that cover all the areas of knowledge in which Tecnológico de Monterrey offers academic programs. Moreover, in this year, the libraries dealt with a total of 495,770, physical book loan requests, while, through the Digital Library (biblioteca.itesm.mx), an average of 2.2 million searches were completed every month in the electronic information resources.

Vice-Rectory in Innovative Education and Online Programs

Tecnológicode Monterreyoffersgraduate, continuing education and social development programs in Mexico and some Latin American countries, using innovative educational models, learning networks and advanced information technologies, to contribute to the integration and development of Spanish-speaking communities.

The courses on line respond to diverse market needs. Faculty members who are experts in their fields, assisted by a team of instructional design and technology specialists, are in charge of developing these courses. Moreover, the faculty is supported by a team of tutors to manage the students' learning process.

The variety of services on line spans undergraduate courses to online literacy programs for the members of the most underprivileged communities in the country, as well as a wide range of master's degrees and continuing education programs. It also offers teacher training programs for both Tecnológico de Monterrey professors and those from other educational systems in Mexico and at least ten other Latin American countries.

Student Life

Tecnológico de Monterrey, in its endeavor to promote the development and comprehensive education of its students, offers diverse programs, courses, workshops and student groups that provide spaces for the development of competencies, such as leadership, self-confidence, ethics and citizenship. These competencies help students to fulfill their personal and professional goals.

The formal student life actions include sports, cultural and student leadership activities, together with prevention and psycho-pedagogic counseling, which are offered through the healthy environment promotion program.

For further information about student life at Tecnológico de Monterrey, visit: http://dae.mty.itesm.mx

Vocational Guidance

A vocational guidance program run by expert specialists is available to students at the Tecnológico de Monterrey campuses upon request. The objective of this service is to provide high school and undergraduate students with the tools for making decisions regarding their life and career plans, such as choosing which major they are going to study, deciding whether to change majors or if they have doubts about continuing at the Institution. Students can take tests in this space to identify the skills, interests and personality characteristics that coincide with the professional profiles of the different degree programs and which are important components in this decision-making process.

Dormitories

In order to provide a comprehensive service, the Guadalajara, Monterrey, Puebla and Querétaro campuses offer dormitories that promote integration and participation in co-curricular activities, such as excursions, tournaments and trips, as well as the possibility of socializing with people from other parts of the world.

Academic Policies and Academic Regulations

Admissions

Tecnológico de Monterrey's admissions process focuses on selecting young people who have the potential to become internationally competitive leaders with a spirit of entrepreneurship and a sense of humanity, as well as the clear capacity and enthusiasm to enrich the academic and student life of the Tecnológico community. As a selective institution, every year there are more student applications than available places.

The Admission Committee is responsible for reviewing the profiles and academic records, since its members assign the admissions decisions through a comprehensive process of selection criteria, as follows:

- Application for admission
- Result of the Academic Aptitude Test
- Prior academic history
- Curriculum (academic, leadership, sports, cultural, personal accomplishments, etc.)
- Essay (which reflects the applicants' personal interests and displays their enthusiasm for belonging to our community)
- Letters of recommendation
- Result of the TOEFL or an alternative English language proficiency test
- Interview

For further details on the undergraduate admissions process, visit the Tecnológico de Monterrey website at https://tec.mx/

Credit Transfer

The credit transfer and equivalence agreements for students enrolled in Tecnológico de Monterrey with partial studies in an academic period, completed at another educational institution, are issued by the Mexican Department of Education based on a proposal made for each particular case by Tecnológico de Monterrey.

Tecnológico de Monterrey recognizes the results of the official examinations by area of knowledge of the International Baccalaureate (IB) and of the Advanced Placement Program (AP), for undergraduate course credit transfer.

Credit transfer applications must be completed during the admissions process for the selected undergraduate degree through the Credit and Credit Transfer Office of the corresponding campus.

The deadline for requesting credit transfer corresponds to the date specified to request a change of courses during the students' first semester at our Institution.

Evaluation and Continuance

Tecnológico de Monterrey considers that from 48 to 60 units per semester is an adequate academic load. It structures its curricula and enrollment rules around these figures.

The evaluation of the students' performance in each of their courses is carried out through partial evaluations and a final evaluation. The final evaluation is compulsory.

Grades are expressed in whole numbers, on a scale of one to one hundred. The minimum pass grade is seventy.

Regarding continuance at Tecnológico de Monterrey, the students with Academic Support standing will face permanent dismissal for unsatisfactory academic performance if:

1. They do not enroll in the Academic Support Program.

2. They fail one or two courses while enrolled in the Academic Support Program.

3. After completing the Academic Support Program, they fail:
    a. Two or more courses in each of the last three consecutive academic periods.
    b. Three or more courses in each of the last two consecutive academic periods.

Regarding these two subsections, all the courses completed by the student, including remedial courses, will be taken into account even if the student changes his/her major. However, the results of intensive courses will not be taken into account.

4. They fail a total of four or more of the following eighteen courses in which they enroll as of their entry into the Academic Support Program.

Graduation

In order to receive an undergraduate degree at Tecnológico de Monterrey, students must satisfy the following requirements:

1. Completion in full of high school studies before passing the first course of the undergraduate curriculum.
2. Taken and passed all the courses included in the curriculum of the major from which they are graduating, in accordance with the provisions of Tecnológico de Monterrey's academic regulations.
3. Completed their social service, in accordance with the legal principles in effect and the corresponding institutional regulations.
4. Taken the General Exit Exam of the National Education Evaluation Center in the majors for which this exam exists. In the case of the majors for which this exam does not exist, students will take a comprehensive examination designed for this purpose.
5. Obtained at least the minimum grade stipulated by Tecnológico de Monterrey on the exam selected by Tecnológico de Monterrey to evaluate students' proficiency in the English language.

General Student Rules and Regulations

Since its foundation, Tecnológico de Monterrey defined the regulations that would guide its students regarding academic expectations and their conduct inside and outside the classroom.
The Institution, committed to its academic quality, informs the students and the community of the regulations that govern it within the framework of the principles and values stated in the Mission.

The General Student Rules and Regulations can be consulted at the official web side. (http://Tec.mx/)

Educational Support and Scholarships

In general, the three types of financial aid programs offered by Tecnológico de Monterrey, applicable to Mexican students, are:

Traditional or Socioeconomic Program

This program targets students with an outstanding academic standing and insufficient funds to pay the tuition fees in their entirety.

In the scholarship-loan program, when the scholarship holders graduate, they will be responsible for paying back to the Institute the educational loan enjoyed during their studies, in order to provide another student with financial support.

In the scholarship program, students do not have to pay the Institute back after graduation.

Talent Program

Some of the Tecnológico de Monterrey campuses award a limited number of high school and undergraduate scholarships for students whose academic performance is outstanding or who are highly talented in sports, cultural or leadership activities.

Academic Loan Program

As part of the financial aid that Tecnológico de Monterrey awards to its students to favor the continuance of their education, the Institution has established an academic loan program, which is an option for high school, undergraduate and gradu ate students.

The Tec Academic Credit, which is available to all students regardless of their grade point average, grants diverse amounts of financial aid according to the economic situation of the student and also offers flexible payment terms.

Fee refunds

Students who withdraw from the courses in which they are enrolled will be refunded a percentage of the total corresponding fees in accordance with the cost of the program and the established policies, which are published on the official Tecnológico de Monterrey website (https://tec.mx/).

Research

For Tecnológico de Monterrey, research is a strategic activity that promotes the generation of innovative solutions for the economic, social and environmental development of Mexico. Tecnológico de Monterrey, committed to scientific and applied research oriented toward adding value to society, focuses its human, material and financial resourc es on priority areas, in order to drive companies' competitiveness, regional progress, the growth of technology-based businesses and its own educational model.

One of the objectives of research is to identify strategic industrial sectors in the regions of the country in which the Institution's campuses are located.

Tecnológico de Monterrey has decided to center its scientific activity on eight strategic research areas in order to foster innovation, knowledge generation and knowledge transfer, endeavoring to solve problems in Mexico and across the world. These eight strategic areas are:

Strategic Foucs Area:
I. Biotechnology
II. Mechatronics
III. Information Technologies, Electronics and communications
IV. Susteinable Technologies
V. Public Policy
VI. Business
VII. Medicine
Transversal Area:
VIII. Education, Humanities and Social Science

The strategic focus of research in these areas seeks to:

- Accelerate the preparation of leading research professors in state-of-the-art topics.
- Access to cutting-edge knowledge through strategic ties with the top universities.
- Educate human capital in strategic areas through world-class academic programs.
- Help Mexican companies to become leaders in research, technology development and innovation.
- Develop technological solutions that will transform strategic sectors.

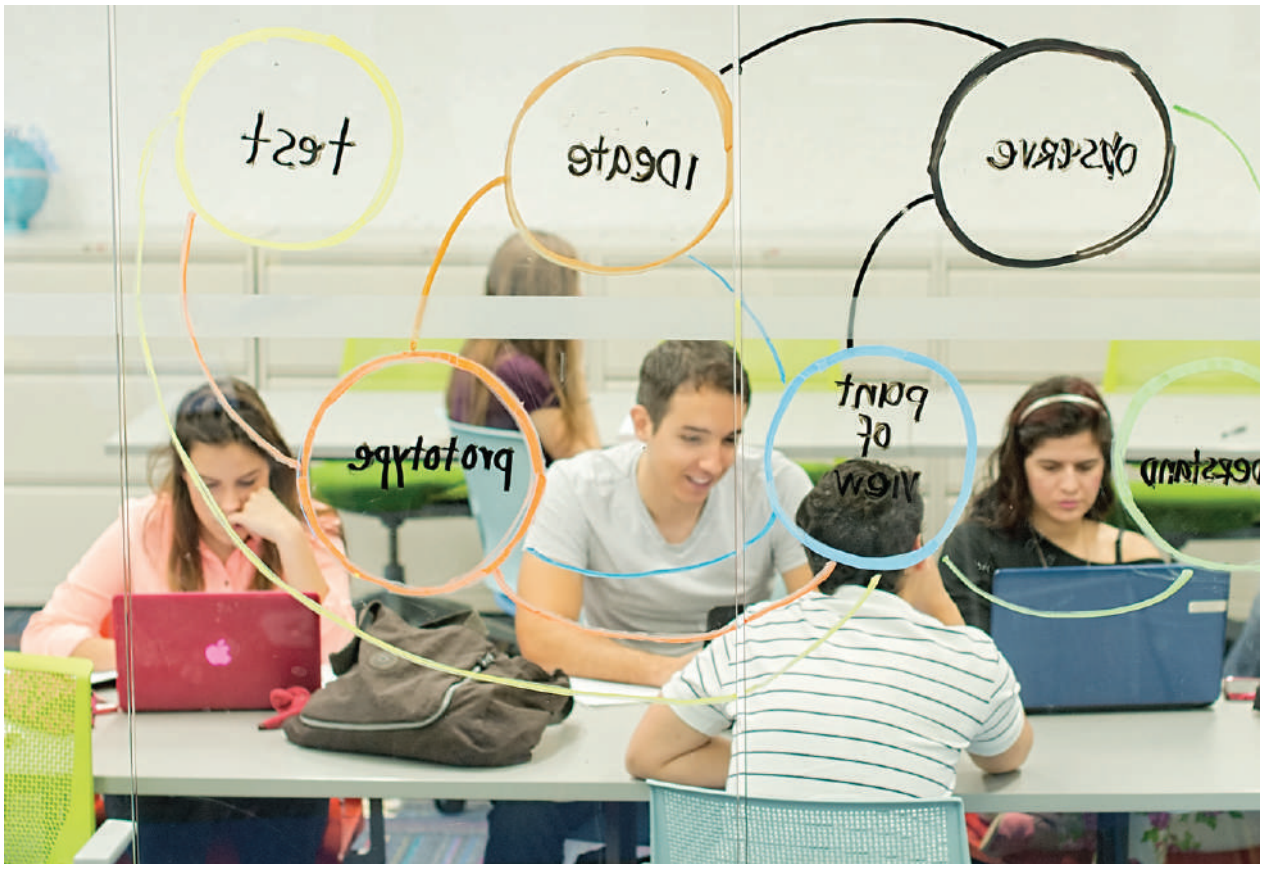
In order to fulfill these scientific objectives, the institution has created 38 strategic groups that support the academic and research activities of the Schools and of the research-oriented academic programs.

These groups engage in generating knowledge at the forefront of their discipline, taking into consideration global technological and social megatrends. Each group is made up of a worldwide leader in the discipline, a national-level leader and research professors from the different schools. Doctoral students, postdoctoral researchers, master's students and undergraduate students also participate.

The 38 focus groups enjoy the participation of 59 international and national leaders, 386 professors, 481 doctoral students and 59 postdoctoral researchers.

In addition to these focus groups, there are four strategic initiatives: Nanotechnology, Energy, Education and Entrepreneurship. The leading educational institutions in the world participate in these initiatives, in which research is conducted across the diverse schools and strategic focus groups.

Research efforts concentrate on activities such as: generating innovative entrepreneurship models and systems; managing and incubating technology-based companies; and enhancing graduate programs with the support groups ofresearchers and research centers.



Research that transforms lives is one of the seven Strategic Initiatives of the Tecnológico de Monterrey, Plan 2020 and is the mainspring of innovative solutions for the economic, social and sustainable development of Mexico. An example of this consists of the projects that are transforming Mexico, developed by the Institution's researchers in the areas of education, engineering, social development, medicine, nanotechnology and security, in their endeavor to transform scientific knowledge into innovative solutions that benefit society, enhancing and transforming people's everyday lives. The multidisciplinary teams, on which researchers of all levels collaborate, work in alliance with national and foreign institutions.

Of the more than 1,100 faculty members who teach the master's and doctoral students at Tecnológico de Monterrey, 468 are research professors who belong to the National System of Researchers (SNI). The aim of this system is to recognize the work of people who are dedicated to producing scientific and technological knowledge in Mexico by appointing them as "National Researchers", which symbolizes the quality and prestige of their scientific contributions.

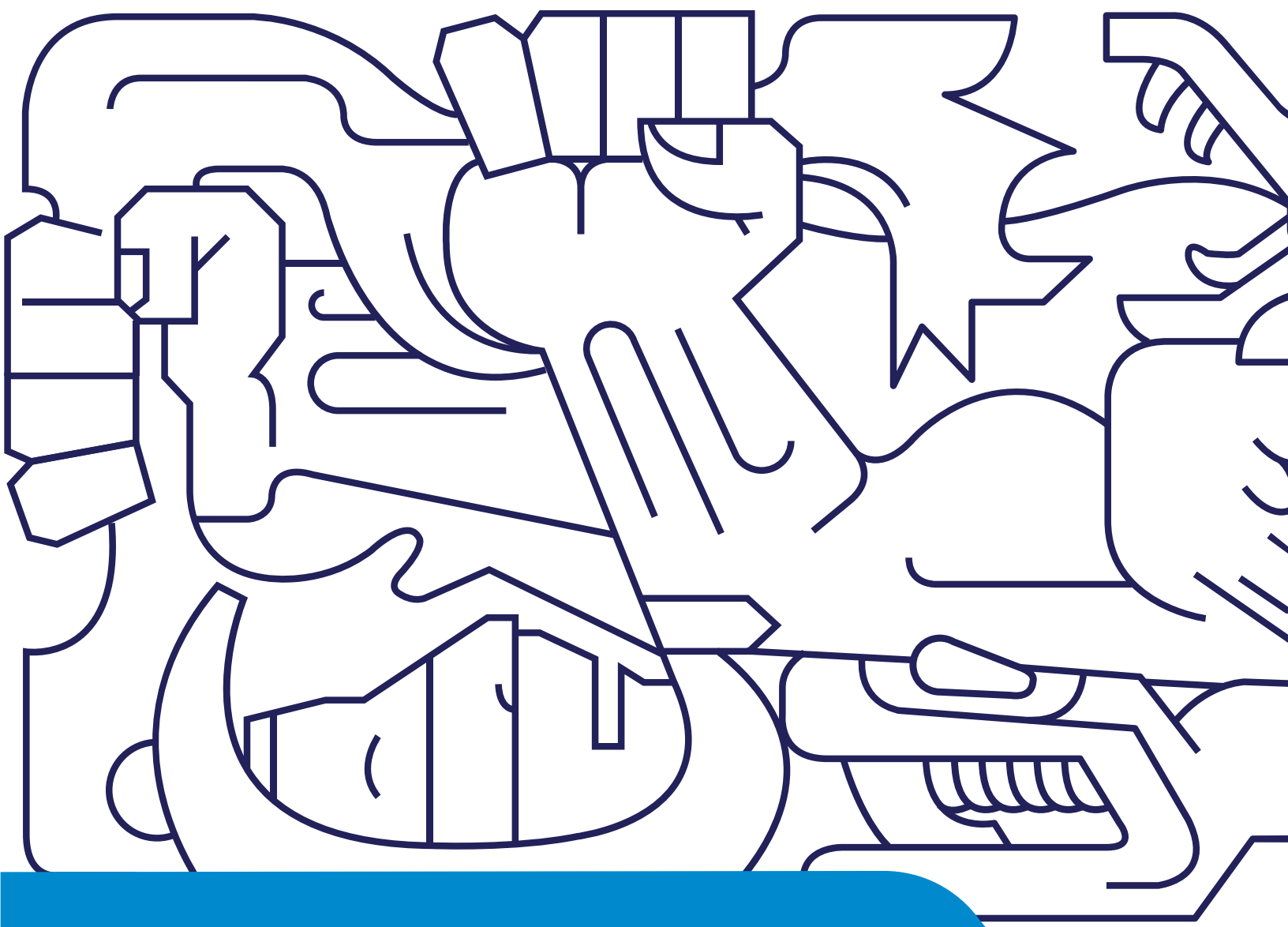
The institution offers 12 doctoral programs, 22 master's programs, 6 specializations and 16 medical residencies, 67% of which have been awarded accreditation by the National Program for Quality Graduate Studies (PNPC) of the National Council of Science and Technology (CONACyT). In addition, the 16 medical specializations have been endorsed and approved by the Inter-institutional Commission for the Education of Human Resources in Healthcare, of the Mexican Department of Health (CIFRHS).

In the second period of 2016, enrollment was: 434 doctoral students, 126 specialization students, 271 medical residency students, and 7,164 face-to-face and online master's students. Approximately 1,000 graduate students enjoy a maintenance grant awarded by the National Council for Science and Technology (CONACyT).

The researchers, together with the students who participate in research projects, strengthen the Patent Program which, between 2006 and 2016, accumulated 333 patent applications in Mexico and 443 in Mexico, the United States, the European Union, Asia and the PCT. A total of 112 patents were awarded in America, 4 in the European Union and 4 in Asia. From 2006 through 2013, Tecnológico de Monterrey was the Mexican educational institution with the most patent applications per year. The Incubation Cell program has support about 30 entrepreneurship projects, 15 of which have been constituted as Technology-based Companies (Spinoffs). Tecnológico de Monterrey has 23 licensed patents and 1 franchise.

In short, research at Tecnológico de Monterrey fosters our students' learning process, supports the intellectual activities of our faculty, and generates the knowledge and innovative solutions that society demands.

As an example of the impact of these activities on our graduates, in 2016 Tecnológico de Monterrey was ranked first in Latin America and 40th worldwide on the Graduate Employability Ranking, of the British university ranking company Quacquarelli Symonds (QS), and was awarded the Gold Prize at the QS-Wharton Reimagine Education Congress for its unique research and entrepreneurship model for driving employability. Tecnológico de Monterrey is also the only university in Mexico and Latin America ranked as a 5-Star world-class university by the same British agency, QS, and is also recognized in the Employability Ranking published by the Times Higher Education, positioned in first place in Mexico.



II. CURRICULA

Academic Programs Offered at Each Campus
Part 1

	School of Architecture and Design			School of Social Sciences and Government							School of Humanities and Education				
Campus/Program	**ARQ**	**LDI**	**LAD**	**LED**	**LDP**	**LDF**	**LEC**	**LEF**	**LRI**	**LTS**	**LCMD**	**IMI**	**LLE**	**LP**	**TOTAL**
Aguascalientes	2			2			3								0
Central de Veracruz				2											0
Chiapas	2							2	3						0
Chihuahua	X			X											2
Ciudad de México	X	X	X	X				X	X		X	X		X	9
Ciudad Juárez															0
Ciudad Obregón															0
Cuernavaca		2	2	2		2	2		3			4			0
Estado de México	X	X	X	X				X	X		X	X			8
Guadalajara	X	X	X	X			3		X		X	4			6
Hidalgo	4	2		4	4	4	2								0
Irapuato															0
Laguna	X	X													2
León	X	X													2
Monterrey	X	X	X	X		X	X		X	X	X	X	X		11
Morelia	X														1
Puebla	X	X	X	X	X			X	X		X	X			9
Querétaro	X	X	X						X	X	X				6
Saltillo	2						2								0
San Luis Potosí	3	3													0
Santa Fe				X			3	X	X		X	X			5
Sinaloa	2						4								0
Sonora Norte	X	X		2			2		2		2				2
Tampico															0
Toluca	X	X	3	X			3		3		X				4
Zacatecas															0
TOTAL	12	10	6	8	1	1	1	4	7	2	8	5	1	1	

The "x" means that the career's offered complete in that Campus.
A number means that the career's offered in the Campus up to the semester that the number indicates.
Its content reflects the information available in official media as of April 2017.

Academic Programs Offered at Each Campus
Part 2

	School of Engineering and Sciences									
	Bioengineering and Chemical Process									
Campus/Programa	**IA**	**IBN**	**IBT**	**IDS**	**IIA**	**IMD**	**INCQ**	**IQA**	**IQP**	**TOTAL**
Aguascalientes					2	2		2	2	0
Central de Veracruz				2				2	3	0
Chiapas				2				2	2	0
Chihuahua			X							1
Ciudad de México	2		X	X	3	X		3	3	3
Ciudad Juárez										0
Ciudad Obregón										0
Cuernavaca	2	4	2	X	2			2	2	1
Estado de México	2		X	3	2			X	3	2
Guadalajara	2		X	4	2	X		2	2	2
Hidalgo	2	4	4	2	2			2	2	0
Irapuato										0
Laguna	2	X	4	2	3			4	4	1
León										0
Monterrey			X	X	X	X	X	X	X	7
Morelia										0
Puebla	2	3	X	X	2			3	3	2
Querétaro	X		X	4	X			2	2	3
Saltillo				2	2			2	2	0
San Luis Potosí										0
Santa Fe	2			X	2			2	2	1
Sinaloa	2	X	2		2			2	2	1
Sonora Norte	3				2			2	2	0
Tampico				2				3	3	0
Toluca	2		X		2			2	2	1
Zacatecas										0
TOTAL	1	2	8	5	2	3	1	2	1	

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Academic Programs Offered at Each Campus
Part 3

	School of Engineering and Sciences															
	Engineering								Information Technologies and Electronics							
Campus/Program	**IC**	**IDA**	**IFI**	**IID**	**IIS**	**IMA**	**IME**	**IMT**	**INT**	**ISC**	**ISD**	**ITC**	**ITE**	**ITI**	**ITS**	**TOTAL**
Aguascalientes	2		2	X	X	4	4	X				3	3			18
Central de Veracruz	2	3		4	4	3	3	3	4		3	4	3			36
Chiapas	2	2		4	4	3	3	3								21
Chihuahua	X			X	X	X		X				X				0
Ciudad de México	2		3	X	X		X	X	4		3	X	3	X	X	15
Ciudad Juárez		3		4	2	4	4	4								21
Ciudad Obregón	2			4	4	2	2	3				3	3			23
Cuernavaca	3	3	3	X	X	4	4	X				X	3	3		23
Estado de México	X	X	2	X	X	3	X	X		X	X		3	X		8
Guadalajara	X		3	X	X	X	4	X	4	X		3	X	X		14
Hidalgo	2	4	2	X	X	3	4	3	4			3	3	X		28
Irapuato				4	4	2	2	4								16
Laguna	2	4	3	X	X	4	4	X	2		2				2	23
León			2	X	X	2	2	X								6
Monterrey	X	X	X	X	X	X	X	X	X		X	X		X		0
Morelia	2	2		X	X	4	4	X								12
Puebla	X	X	3	X	X	X	4	X			X	X		X		7
Querétaro	X	5	2	X	X	X	7	X		X	X		3	X		17
Saltillo	2	4	3	X	X	4	4	X	2							19
San Luis Potosí			2	X	X	X	4	X	X			2				8
Santa Fe	2		2	X	X	3	3	X			3	X	3	X	3	19
Sinaloa	2		2	4	X	2	2	3	4			3	3	3		28
Sonora Norte	2		2	X	X	2	2	X					2	2		12
Tampico	2	4	3	X	X	4	4	X	3	4	3	4	2	X	2	35
Toluca	2	X	2	X	X	X	2	X		X	3					9
Zacatecas		3		4	4	3	3	3								20
TOTAL	6	4	1	19	20	7	3	18	2	4	4	6	1	9	1	

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Academic Programs Offered at Each Campus
Part 4

	School of Medicine and Health Sciences					School of Business									
Campus/Program	**LBC**	**LNB**	**LPS**	**MC**	**MO**	**LAE**	**LAF**	**LCDE**	**LCPF**	**LEM**	**LIN**	**LLN**	**LMC**	**LPM**	**LPO**	**TOTAL**
Aguascalientes						X	4	4	4	4	X		X			16
Central de Veracruz						4	3	2	4	4	4	4	4			29
Chiapas						4	4	4	4	4	4					24
Chihuahua				4		X	X			X	X					4
Ciudad de México	X	X		X		X	X	X	X	X	X		X			0
Ciudad Juárez						4	3	2	4	4	3	3	2			25
Ciudad Obregón						4	4	4	4	4	4		2			26
Cuernavaca						X	X	4	4		X		X			8
Estado de México						X	X	X	X	X	X		X		X	0
Guadalajara	X	X		X		X	X	X	X	X	X	X			2	2
Hidalgo						X	4	4	X	4	4					16
Irapuato						4	4	4	4	4	4	4	4			32
Laguna						X	X	X	4	4	X	4	X	2		14
León						X	X	X	4		X		X			4
Monterrey	X	X	X	X	X	X	X	X	X	X	X			X	X	0
Morelia						X	4	4		4	X		X			12
Puebla						X	X	X	4		X		X			4
Querétaro						X	X	X	X	4	X	3	X	3		10
Saltillo						X	3	4	4	4	X	3	2	2		22
San Luis Potosí						X	X	4	4	4	X	4	X			16
Santa Fe						X	X	X	4	4	X		X			8
Sinaloa						X	X	4	4	4	X		X			12
Sonora Norte						X	4	X	4	4	X		X			12
Tampico						X	3	4	4	4	X	4	2			21
Toluca						X	4	X	X	X	X					4
Zacatecas						4	4	4	4	4	4	4	4			32
TOTAL	3	3	1	3	1	20	13	11	7	6	19	1	13	1	2	

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Profiles and Curricula of the Undergraduate Programs

This section contains the undergraduate curricula offered by Tecnológico de Monterrey.

Information on these programs and the description of the courses they include are also available at www.itesm.mx

Tecnológico de Monterrey reserves the right to change the programs described in this document.

The course descriptions are presented by academic discipline. The letters in the course codes indicate the discipline associated to the course and can be used to locate the description of the courses in the corresponding section of this document.

Course Code	Course	C – L – U
MA1016	Mathematics I	3 – 0 – 8

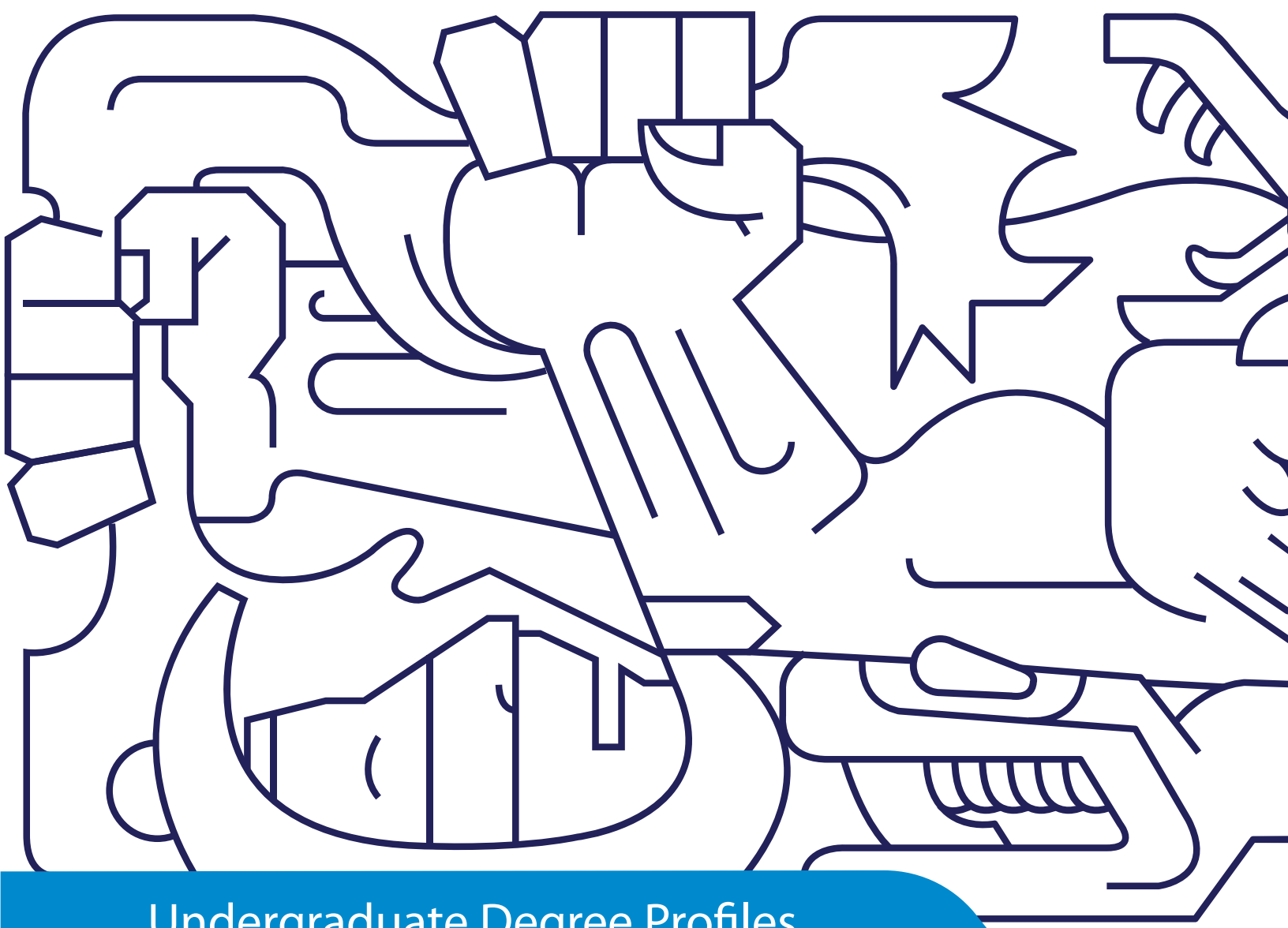
The letters of the code indicate the discipline to which the course belongs. In the example, the letters MA indicate that the course corresponds to the discipline Mathematics. All the courses of a curriculum are described in the section Course Content by Academic Discipline.

The letter "C" indicates the number of class hours per week.
The letter "L" indicates experimental and/or experiential activities supervised by a teacher per week.
The letter "U" indicates the number of total academic units per week of the course.

In this case, the course Mathematics I consists of 3 class hours per week, 0 hours of experimental and/or experiential activities and a total of 8 academic units. The academic units represent the total number of hours per week on average that students should devote to the course. The total academic units include the class hours, experimental and/or experiential activity hours supervised by a teacher, and the independent work hours.

Any course requirements are listed in the course description.

One academic unit presents approximately 16 h hours of work during the academic semester.



Undergraduate Degree Profiles
and Curricula

School of Architecture and Design

B.A. of Architecture (ARQ)

Graduates from this program are professionals who plan, design, construct and manage the architectural and urban spaces needed by human beings. They are designers of sustainable spaces and promoters of real-estate opportunities, with an urban and environmental awareness and a command of design, representation and construction technologies.

Competencies for Graduates:

- Conceive architectural and urban spaces that fulfill the needs and aspirations of inhabitants and users, considering all the ethical, social and economic implications.
- Generate projects in the area of architectural and urban design, considering the structural and construction characteristics, complying with safety and construction standards, considering their environmental implications and applying the principles of environmental protection and sustainability.
- Plan, budget and manage the material and financial resources of construction projects and works, applying the principles of reuse, ecycle and reduce.
- Identify entrepreneurial opportunities and put them into practice hrough the development of real-estate investment proposals and economic feasibility projects.

ARQ B.A. of Architecture
Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
AR1013	Drawing	4	0	8
AR1014	Descriptive Geometry	3	0	8
AR1019	Introduction to Architecture	3	0	4
DL1002	Design Fundamentals I	4	0	8
DL1008	Models and Scale Models	3	0	8
H1016	Foreign Language	5	0	8
MA1009	Mathematics for Design	3	0	8
		25	**0**	**52**

Second Semester		C	L	U
AR1015	Architectural Drawing	4	0	8
AR1016	Applied Geometry	3	0	8
DL1004	Design Fundamentals II	4	0	8
DL1009	Creativity and Innovation	3	0	8
DS1003	Natural Sciences and Sustainable Development	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
		22	**0**	**48**

Third Semester		C	L	U
AR1007	History of Architecture and the City I	3	0	8
AR1017	Computer aided Drawing	3	0	8
AR1018	Architecture Theory and Design Methodologies	3	0	8
AR2017	Bioclimatic Design	3	0	8
AR2018	Projects I: Residential Housing	6	0	12
CV2024	Structure Mechanics I	3	0	8
		21	**0**	**52**

Fourth Semester		C	L	U
AR1010	History of Architecture and the City II	3	0	8
AR2004	Digital Visualization	3	0	8
AR2019	Projects II: Collective Housing	6	0	12
CV2023	Materials and Construction Procedures I	3	0	8
CV2025	Structure Mechanics II	3	0	8
H1018	Ethics, Self and Society	3	0	8
		21	**0**	**52**

Fifth Semester		C	L	U
AR2005	History of Architecture and the City III	3	0	8
AR2020	Installations and Alternate Systems	4	0	8
AR2021	Construction Materials and Procedures II	3	0	8
AR2022	Projects III: Educational or Recreational Buildings	6	0	12
CV2026	Structural Systems	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
		22	**0**	**52**

Sixth Semester		C	L	U
AR2007	History of Architecture and the City IV	3	0	8
AR2023	Construction Projects I	6	0	12
AR2024	Projects IV: Community Buildings	6	0	12
CV3017	Concrete Structures Design	3	0	8
EM1005	Entrepreneurship	3	0	8
		21	**0**	**48**

Seventh Semester		C	L	U
AR2025	Critical Analysis of Architecture and its Context	3	0	8
AR2026	Construction Projects II	6	0	12
AR3014	Projects V: Mixed use Complexes	6	0	12
CV2027	Construction Costs	3	0	8
CV3018	Design of Steel Structures	3	0	8
		21	**0**	**48**

Eighth Semester		C	L	U
AR3015	Building and Energy Efficiency	3	0	8
AR3016	Internship	3	0	8
AR3017	Capstone Projects I	6	0	12
AR3018	Urban Theories	3	0	8
CV2016	Construction Site Management	3	0	8
HS2005	Citizenship	3	0	8
		21	**0**	**52**

Ninth Semester		C	L	U
AR3006	Urban Design Methods	3	0	8
AR3019	Real estate Projects	3	0	8
AR3020	Capstone Projects II	6	0	12
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**44**

Tenth Semester		C	L	U
AR3021	Introduction to Professional Development	2	0	2
AR3022	Final Project	8	0	16
CV3022	Business Management in the Construction Industry	3	0	8
HS2006	Applied Ethics	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		22	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Animation and Digital Art (LAD)

Graduates from this program are professionals with an in-depth knowledge of art, technology and narrative, specializing in the design, development and production of artistic-technological projects for the entertainment and digital media industries (videogames, music, film, advertising, Internet, television, science and technology), which meet their expression and dissemination needs.

LAD

Competencies for Graduates:

- Plan, organize and direct animation projects, creating work teams and using technology efficiently.
- Design, produce and publish animation projects in diverse techniques to fulfill specific objectives and complying with the entertainment and digital media industry standards.
- Collaborate with interdisciplinary teams in the development of applications and interactive projects (videogames, simulation and augmented reality) in art, entertainment, advertising, education, medicine and science settings.
- Participate in art and technology projects related to sustainability to contribute to the development of their communities, with a sense of ethics and responsibility toward the social and cultural environment.

LAD B.A. Animation and Digital Art
Edition 2017

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
AR1014	Descriptive Geometry	3	0	8
AR1023	Drawing I	4	0	8
DL1002	Design Fundamentals I	4	0	8
DL1019	Introduction to the Design Area	3	0	4
OP1008	Exploration Elective A -I	3	0	8
OP1009	Exploration Elective A -II	3	0	8
OP1019	Exploration Elective A - III	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
DL1004	Design Fundamentals II	4	0	8
DL1009	Creativity and Innovation	3	0	8
DL1020	Drawing II	4	0	8
F1007	Mathematics and Physics for Design	3	0	8
OP1010	Exploration Elective B -I	3	0	8
OP1011	Exploration Elective B -II	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
AT1001	Artistic Drawing	4	0	8
AT2006	Theory and Practice of Sound	3	0	8
CO1007	Communication, Signs, and Signification	3	0	8
H1016	Foreign Language	5	0	8
H1018	Ethics, Self and Society	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
		20	**0**	**48**

Fourth Semester		C	L	U
A2010	Form Exploration	4	0	8
AT2000	Digital Modelling	3	0	8
H1048	Narrative Structures	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
H2022	Art History	3	0	8
TC1014	Programming Fundamentals	3	0	8
		19	**0**	**48**

Fifth Semester		C	L	U
AT2005	3D Animation	3	0	8
AV1004	Audiovisual Language and Narrative	3	0	8
AV2004	Scriptwriting	3	0	8
HS2005	Citizenship	3	0	8
TC1015	Introduction to Interactive Design	3	0	8
TC2021	Programming for Digital Artist	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
A1002	Aesthetics	3	0	8
AT2016	Acting for Animation	3	0	8
AT3001	Advanced Digital Modeling	3	0	8
AV3014	Visual Narrative	3	0	8
EM1005	Entrepreneurship	3	0	8
HS2006	Applied Ethics	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
OP3051	Professional Elective I	3	0	8
OP3052	Professional Elective II	3	0	8
OP3053	Professional Elective III	3	0	8
OP3054	Professional Elective IV	3	0	8
OP3055	Professional Elective V	3	0	8
OP3056	Professional Elective VI	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
OP3061	Complementary Professional Elective I	3	0	8
OP3062	Complementary Professional Elective II	3	0	8
OP3063	Complementary Professional Elective III	3	0	8
OP3064	Complementary Professional Elective IV	3	0	8
OP3065	Complementary Professional Elective V	3	0	8
OP3066	Complementary Professional Elective VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AT3005	Introduction to Professional Development	2	0	2
VA3101	Elective I	3	0	8
VA3102	Elective II	3	0	8
VA3103	Elective III	3	0	8
VA3104	Elective IV	3	0	8
VA3105	Elective V	3	0	8
VA3106	Elective VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Elective Courses

Exploration Elective A, B and C (Choose 5)

		C	L	U
A1000	Form Exploration Workshop I	4	0	8
AR1024	History of Contemporary Architecture	3	0	8
AR2017	Bioclimatic Design	3	0	8
AT1002	Fundamentals of Animation	3	0	8
AT1004	Introduction to 3D	3	0	8
AT2014	History of Animation	3	0	8
AV1000	Photography and Digital Imaging	3	0	8
DL1008	Models and Scale Models	3	0	8
DL1021	Biodesign	3	0	8
DL2003	History of Industrial Design	3	0	8

Professional Elective Courses (1)

Visual Development		C	L	U
A2008	Art Direction for Audiovisual Media	3	0	8
AT2004	Animation and Digital Art Project I	3	0	8
AT2010	Secuencial Art	3	0	8
AT2015	Matte Painting	3	0	8
AT3009	3D Sculpture	3	0	8
DL2026	Advanced Digital Representation Techniques	3	0	8

Complementary Professional Elective Courses (1)

Innovation		C	L	U
AD3009	Strategic Innovation Management	3	0	8
AD3010	Business Model Innovation	3	0	8
AD3011	Innovation Project I	3	0	8
AD3012	Innovation Project II	3	0	8
AD3016	Business in the Industry of Music	3	0	8
AD3017	Family Business and Corporate Governance	3	0	8

International Business Obligatory Course		C	L	U
NI3031	International Business Project I	3	0	8

Optional Courses (Choose five)		C	L	U
NI1001	Enterprise, Culture and Business in The World	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
NI2001	International Negotiations	3	0	8
NI2014	Business Ethics	3	0	8
NI2016	Legal Aspects of International Commerce	3	0	8
NI2017	Competitive Intelligence and Geo-economics	3	0	8
NI3036	International Trade Agreements	3	0	8

(1) Non-accredited Professional Concentrations may also be considered as Complementary Professional Concentrations.

B.A. Industrial Design (LDI)

Graduates from this program are professionals who have the capacity to identify design opportunities in any productive, occupational and social area in order to generate products, services and creative business models, and integrate them into attractive proposals that are financially and technologically feasible.

Competencies for Graduates:

- Implement user-oriented design proposals, considering concepts based on the users' aspirations, habits, behaviors and customs within their socio-cultural and economic-regional setting.
- Handle materials to create functional, aesthetic and productively feasible forms.
- Visualize future scenarios and develop design strategies.
- Analyze and translate socio-cultural and technological trends into the design of meaningful solutions.
- Apply systemic thinking to understand and address the conflicts that affect design sustainability.

LDI B.A. Industrial Design
Edition 2017

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
AR1014	Descriptive Geometry	3	0	8
AR1023	Drawing I	4	0	8
DL1002	Design Fundamentals I	4	0	8
DL1019	Introduction to the Design Area	3	0	4
OP1008	Exploration Elective A -I	3	0	8
OP1009	Exploration Elective A -II	3	0	8
OP1019	Exploration Elective A - III	3	0	8
		25	**0**	**52**

Second Semester		C	L	U
DL1004	Design Fundamentals II	4	0	8
DL1009	Creativity and Innovation	3	0	8
DL1020	Drawing II	4	0	8
F1007	Mathematics and Physics for Design	3	0	8
OP1010	Exploration Elective B -I	3	0	8
OP1011	Exploration Elective B -II	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
AR1016	Applied Geometry	3	0	8
DL1010	Model and Prototypes Workshop I	3	0	8
DL2001	Design Project I	6	0	12
DL2037	Drawing III	4	0	8
H1016	Foreign Language	5	0	8
M1006	Computer Drawing	3	0	8
		24	**0**	**52**

Fourth Semester		C	L	U
AT2000	Digital Modelling	3	0	8
DL1012	Design Ergonomics	3	0	8
DL2005	Design Project II	6	0	12
DL2023	Model and Prototype Workshop II	3	0	8
H1032	Mexican Identity and Culture	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
		23	**0**	**52**

Fifth Semester		C	L	U
DL2011	Design Project III	6	0	12
DL2020	User-centered Design	3	0	8
DL2026	Advanced Digital Representation Techniques	3	0	8
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
M1008	Materials Transformation and Selection I	0	3	4
		18	**3**	**48**

Sixth Semester		C	L	U
DL2015	Design Project IV	6	0	12
DL2022	Advanced Digital Modeling	3	0	8
DL2027	Futurology in Industrial Design	3	0	8
EM1005	Entrepreneurship	3	0	8
HS2005	Citizenship	3	0	8
M1009	Transformation and Selection of Materials II	0	3	4
		18	**3**	**48**

Seventh Semester		C	L	U
OP3051	Professional Elective I	3	0	8
OP3052	Professional Elective II	3	0	8
OP3053	Professional Elective III	3	0	8
OP3054	Professional Elective IV	3	0	8
OP3055	Professional Elective V	3	0	8
OP3056	Professional Elective VI	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
OP3061	Complementary Professional Elective I	3	0	8
OP3062	Complementary Professional Elective II	3	0	8
OP3063	Complementary Professional Elective III	3	0	8
OP3064	Complementary Professional Elective IV	3	0	8
OP3065	Complementary Professional Elective V	3	0	8
OP3066	Complementary Professional Elective VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
DL3008	Professional Insertion Project	4	0	8
DL3018	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
VA3101	Elective I	3	0	8
VA3102	Elective II	3	0	8
VA3103	Elective III	3	0	8
VA3104	Elective IV	3	0	8
		21	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Elective Courses

Exploration Elective A and B. Choose 5.		**C**	**L**	**U**
A1000	Form Exploration Workshop I	4	0	8
AR1015	Architectural Drawing	4	0	8
AR1024	History of Contemporary Architecture	3	0	8
AR2001	Construction Materials and Procedures I	4	0	8
AR2017	Bioclimatic Design	3	0	8
AT1002	Fundamentals of Animation	3	0	8
AT1004	Introduction to 3D	3	0	8
AT2014	History of Animation	3	0	8
AV1000	Photography and Digital Imaging	3	0	8
DL1008	Models and Scale Models	3	0	8
DL1013	Design and Ethnography Methods	3	0	8
DL1021	Biodesign	3	0	8
DL2003	History of Industrial Design	3	0	8
DL2025	Language and Meaning of Objects	3	0	8

Professional Elective Courses (1)

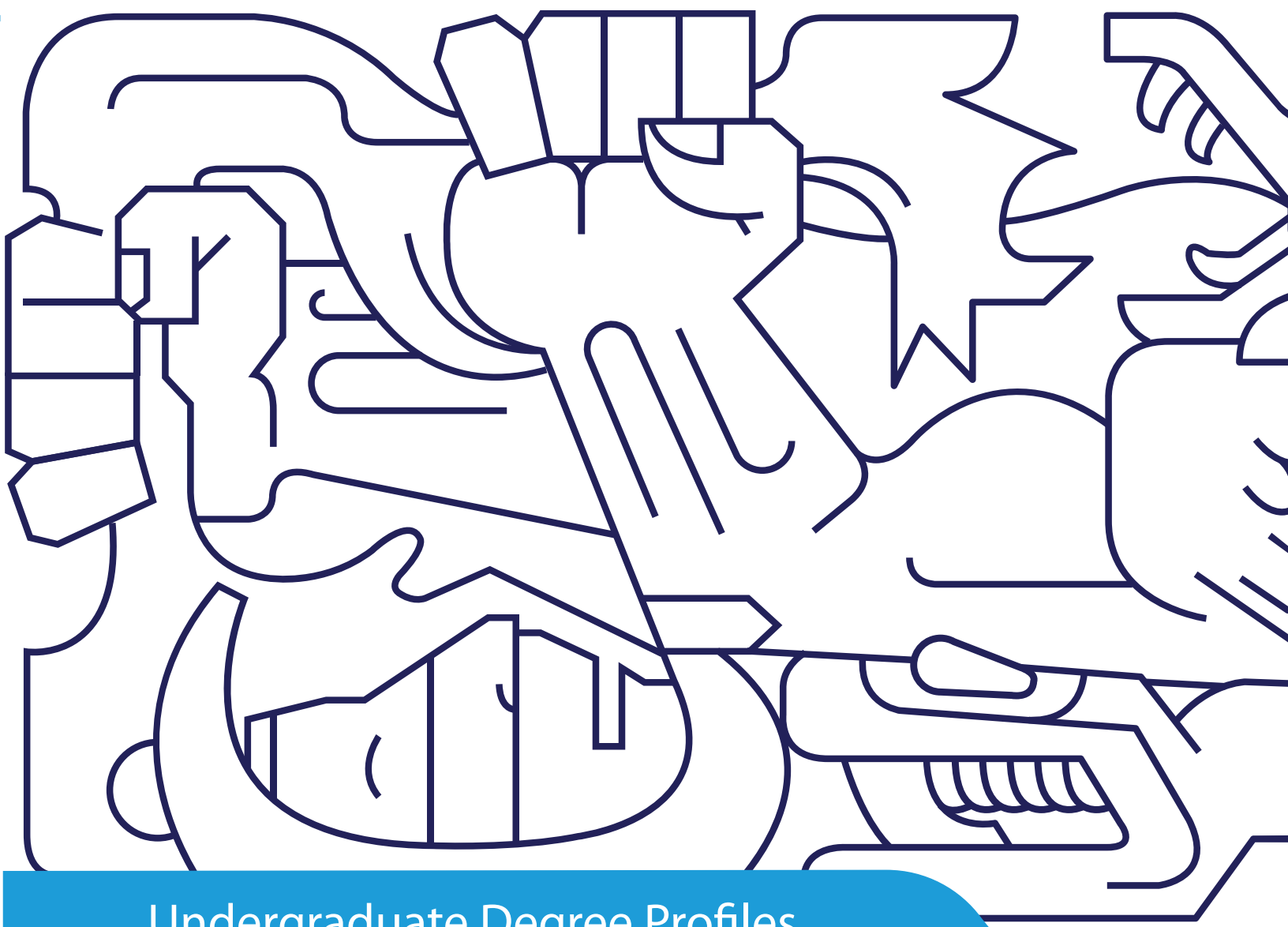
Design for Social Innovation		**C**	**L**	**U**
CO2004	Qualitative Research Methods	3	0	8
CO2010	Cultural Studies Analysis Tools	2	0	4
DL2032	Design for Sustainability and Social Innovation	3	0	8
DL2038	Design Project for Social Transformation	6	0	12
H2033	Social Anthropology	3	0	8
P3014	Managing of Social Projects	3	0	8

Complementary Professional Elective Courses (1)

Styling Automotriz		**C**	**L**	**U**
DL2017	Advanced Prototypes	1	4	8
DL2029	Automotive Ergonomics	3	0	8
DL2030	The Art of Automotive Illustration	3	0	8
DL2031	Styling Project I3	0	8	
DL3021	Styling Project II	3	0	8
M2011	Product Development Process	3	0	8

Jewelry Design, Manufacturing and Commercialization		**C**	**L**	**U**
DL2034	Jewelry Forge	3	0	8
DL2035	Advanced Jewelry Making Techniques	3	0	8
DL3012	Jewelry Design and Making workshop	3	0	8
DL3019	Mixed Media Silver Jewelry	3	0	8
DL3022	Integrated Project in Jewelry	3	0	8
MT3032	Branding	3	0	8

(1) Non-accredited Professional Concentrations may also be considered as Complementary Professional Concentrations.



Undergraduate Degree Profiles
and Curricula

School of Social Sciences and Government

B.A. Law with Minor in Finance (LDF)

Graduates from this program are professionals with a solid grounding in the field of law and an in-depth knowledge of finance, specializing in proposing legal alternatives to solve problems related to corporate and public finance, and participating in the design and application of taxes, as well as their legal determination and defense.

LDF

Competencies for Graduates:

- Apply the instruments provided by law and the knowledge of public and corporate finance in settings related to this discipline.
- Propose integral legal and financial solutions with a broad vision of the needs of the social, public and private sectors regarding the issues concerning them.
- Participate in the formulation of laws that are consistent with the country's economic and financial reality.
- Offer solutions to the issues that are implicit in the combination of law and corporate finance in a highly competitive, globalized setting.
- Advise companies on best practices in corporate governance by means of the reconciliation of the company's financial interests and legal aspects.

LDF B.A. Law with Minor in Finance
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
CF1008	Financial Information for Decision Making	3	0	8
D1005	Law Theory	3	0	8
D1023	Roman Law	3	0	8
D1026	Introduction to Law Field	3	0	4
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
		25	**0**	**52**

Second Semester		C	L	U
CF2015	Financial Information Analysis	3	0	8
D1010	Introduction to Civil and Family Law	3	0	8
D1012	Constitutional Law	3	0	8
EC1008	Enterprise Economics	3	0	8
MA1017	Mathematics II	3	0	8
RI1004	International Politics	3	0	8
		18	**0**	**48**

Third Semester		C	L	U
D1003	Assets, Real Rights and Successions	3	0	8
D1007	General Procedural Theory	3	0	8
D1019	Criminal Law	3	0	8
D2009	Fundamental Rights	3	0	8
EC1009	Macroeconomic Environment	3	0	8
FZ1005	Financial Mathematics	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
D2013	Obligation Law I	3	0	8
D2021	Administrative Law and Public Policy I	3	0	8
D3017	Civil Trial Law	3	0	8
D3018	Criminal Law Clinic	3	0	8
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
D2010	Obligation Law II	3	0	8
D2016	Public International Law	3	0	8
D2022	Administrative Law and Public Policy II	3	0	8
D2023	Labor Law I	3	0	8
EM1005	Entrepreneurship	3	0	8
FZ2013	Regulation and Structure of Financial Institutions	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
D3019	Civil and Mercantile Contracts	3	0	8
D3020	Labor Law II	3	0	8
FZ1006	Personal and Business Finance	3	0	8
FZ2006	Money and Capital Markets	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
VA2010	Topics I	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
D1015	Business Corporations	3	0	8
D2004	Oral Judgments	3	0	8
D2015	Tax Law	3	0	8
D2024	Intellectual Property Law	3	0	8
D3010	Private International Law	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
D2017	Credit Titles	3	0	8
D3023	Procedural, Administrative and Tax Law	3	0	8
D3024	Amparo Trial I	3	0	8
FZ2015	Financial Structure and Corporate Governance	3	0	8
FZ2016	Project Valuation and Financing	3	0	8
HS2005	Citizenship	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
D3026	Mercantile Trial Law	3	0	8
D3027	Amparo Trial II	3	0	8
D3028	Alternatives for Dispute Resolution	3	0	8
D3029	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Law with Minor in Political Science (LDP)

Graduates from this program are legal experts with an in-depth knowledge of political science, specialized in formulating and implementing legal trategies that focus on the legislation of politics and conducting legal-political research to solve social problems through the application of public policies.

LDP

Competencies for Graduates:

- Direct legal-political research projects with the aim of solving social problems through the implementation of public policies.
- Guide the legal-political decisions of public, private and social organizations.
- Conduct analyses of the impact of the political actors in the field of law in order to achieve equitable negotiations.
- Apply the laws, standards, international treaties and provisions existing in the areas of legal intermediation in both private and public settings.
- Participate directly or indirectly in the generation of social impact political instruments.
- Design legal strategies that include political science analysis components.

LDP B.A. Law with Minor in Political Science
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
D1005	Law Theory	3	0	8
D1013	Political Theory of the State	3	0	8
D1023	Roman Law	3	0	8
D1026	Introduction to Law Field	3	0	4
H1016	Foreign Language	5	0	8
MA1008	Statistics for Research in the Social Sciences	3	0	8
P1002	Fundamentals of Political Science	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
D1010	Introduction to Civil and Family Law	3	0	8
D1012	Constitutional Law	3	0	8
D2006	Legal Research	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1016	Mathematics I	3	0	8
P2009	Classical Political Thinking	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
D1003	Assets, Real Rights and Successions	3	0	8
D1007	General Procedural Theory	3	0	8
D1019	Criminal Law	3	0	8
D2009	Fundamental Rights	3	0	8
EC1008	Enterprise Economics	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
D2013	Obligation Law I	3	0	8
D2021	Administrative Law and Public Policy I	3	0	8
D3017	Civil Trial Law	3	0	8
D3018	Criminal Law Clinic	3	0	8
EC1009	Macroeconomic Environment	3	0	8
H1018	Ethics, Self and Society	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
D2004	Oral Judgments	3	0	8
D2010	Obligation Law II	3	0	8
D2016	Public International Law	3	0	8
D2022	Administrative Law and Public Policy II	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
P2003	Contemporary Political Theory	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
D3010	Private International Law	3	0	8
D3019	Civil and Mercantile Contracts	3	0	8
D3021	Public Financial Law	3	0	8
EM1005	Entrepreneurship	3	0	8
P2005	Principles of Public Policy	3	0	8
P2010	Politics, Media and Public Opinion	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
D1002	Labor Law	3	0	8
D1015	Business Corporations	3	0	8
D2015	Tax Law	3	0	8
HS2005	Citizenship	3	0	8
P3005	Political Analysis	3	0	8
VA2010	Topics I	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
D2017	Credit Titles	3	0	8
D3022	Procedural Labor Law	3	0	8
D3025	Environmental Law and Sustainable Development	3	0	8
HS2006	Applied Ethics	3	0	8
P2011	Mexican Political System	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
D3014	Amparo Trial	3	0	8
D3028	Alternatives for Dispute Resolution	3	0	8
D3029	Introduction to Professional Development	2	0	2
P3010	Political Parties	3	0	8
P3012	Design of Public Policies	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Economics (LEC)

Graduates from this program are professionals with a solid background in economic theory who use quantitative tools to analyze economic models that seek to optimize the physical, financial and human resources of society, and are capable of addressing issues in the following areas: design and valuation of international trade policy, economic development, regulation of competition, price fixing and optimal taxes, among others.

Competencies for Graduates:

- Participate with a strategic vision in decision making in national and international public and private organizations, using statistical and financial economic analysis.
- Recognize the factors that trigger economic crises and seek solutions in the best interests of society.
- Carry out economic policy proposals in the public sector at federal, state and municipal levels, developing forward-looking projects to propose policies for the development of the country or region.
- Use their analytical and quantitative capacities in the financial system, the Bank of Mexico and company treasuries to assess investment projects, calculate the price of diverse financial instruments and allocate resources efficiently.
- Participate in national and international theoretical and applied economic research projects and consultancy projects.

LEC B.A. Economics
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
EC1007	Economic History	3	0	8
EC1011	Introduction to Economics Field	3	0	4
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA1015	Mathematics I	3	0	8
P1002	Fundamentals of Political Science	3	0	8
		25	**0**	**52**

Second Semester		C	L	U
EC1008	Enterprise Economics	3	0	8
EC1009	Macroeconomic Environment	3	0	8
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MA1017	Mathematics II	3	0	8
RI2029	History of Contemporary Mexico	3	0	8
		18	**0**	**48**

Third Semester		C	L	U
CF1010	Accounting and Cost Management	3	0	8
EC2007	History of Economic Thought	3	0	8
EC2009	Intermediate Microeconomics	3	0	8
EC2023	Intermediate Macroeconomics	3	0	8
MA1020	Statistics I	3	0	8
MA2000	Mathematics for Economics I	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CO2003	Quantitative Social Research Methods	3	0	8
EC2024	Game Theory and Strategic Decisions	3	0	8
EC3021	International Finance and Open Economy	3	0	8
EC3022	Consumer Theory	3	0	8
MA2011	Statistics II	3	0	8
MA3001	Mathematics for Economics II	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
EC2013	Econometrics I	3	0	8
EC2016	Monetary Theory and Politics	3	0	8
EC3023	Mathematical Economics	3	0	8
EC3024	Dynamic Macroeconomics	3	0	8
EC3025	Theory and Pricing Strategies	3	0	8
EM1005	Entrepreneurship	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
EC3002	Econometrics II	3	0	8
EC3009	Theory and Politics of International Commerce	3	0	8
EC3026	Industrial Organization and Regulation	3	0	8
EC3027	Economic Growth	3	0	8
EC3032	Public Sector Economics and Social Well-Being	3	0	8
VA2010	Topics I	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
EC3008	Time Series Analysis	3	0	8
EC3028	Economic Development	3	0	8
EC3029	Managerial Economics and Incentives	3	0	8
EC3030	Financial Economics	3	0	8
EC3031	Macroeconomics and Business Cycles	3	0	8
HS2005	Citizenship	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
EC3010	Multivariate Economic Analysis	3	0	8
EC3012	Social Evaluation of Projects	3	0	8
EC3014	Regional Economics	3	0	8
HS2006	Applied Ethics	3	0	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
EC3016	Mexican Economics Seminar	3	0	8
EC3033	Natural Resources Economics and Sustainability	3	0	8
EC3034	Seminar on Economic, Financial and Political Analysis	3	0	8
EC3035	Introduction to Professional Development	2	0	2
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Law (LED)

Graduates from this program are professionals with a command of the oral and written language required for legal argumentation and interpretation, in Spanish and English, specializing in the design and application of legal innovations for the administration of justice, as well as in the implementation of dispute prevention and resolution strategies, applying alternative dispute resolution processes.

LED

Competencies for Graduates:

- Apply instruments provided by law in settings related to settings.
- Know the prevailing laws, regulations, international treaties and provisions in the areas of legal intermediation and apply them in real cases.
- Conduct impact analyses of the global players in the field of international law in order to advise on legal decision-making.
- Propose comprehensive legal solutions with abroad vision of the needs of the social, public and private sectors.
- Advise transnational companies, government and non-government organizations in legal matters in order to regulate their exchanges and protect their products and interests.
- Successfully implement oral trials.

LED B.A. Law
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
D1005	Law Theory	3	0	8
D1013	Political Theory of the State	3	0	8
D1023	Roman Law	3	0	8
D1026	Introduction to Law Field	3	0	4
H1016	Foreign Language	5	0	8
P1000	Sociology	3	0	8
RI1004	International Politics	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
CO2004	Qualitative Research Methods	3	0	8
D1010	Introduction to Civil and Family Law	3	0	8
D1011	Criminal Law I	3	0	8
D1012	Constitutional Law	3	0	8
D2006	Legal Research	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
		20	**0**	**48**

Third Semester		C	L	U
D1003	Assets, Real Rights and Successions	3	0	8
D1007	General Procedural Theory	3	0	8
D2009	Fundamental Rights	3	0	8
D2012	Criminal Law II	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MA1016	Mathematics I	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
D2013	Obligation Law I	3	0	8
D2021	Administrative Law and Public Policy I	3	0	8
D3017	Civil Trial Law	3	0	8
D3018	Criminal Law Clinic	3	0	8
EC1008	Enterprise Economics	3	0	8
H1018	Ethics, Self and Society	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
D2004	Oral Judgments	3	0	8
D2010	Obligation Law II	3	0	8
D2016	Public International Law	3	0	8
D2022	Administrative Law and Public Policy II	3	0	8
D2023	Labor Law I	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
D2011	Mercantile Contracts	3	0	8
D3000	Civil Contracts	3	0	8
D3010	Private International Law	3	0	8
D3020	Labor Law II	3	0	8
D3021	Public Financial Law	3	0	8
EM1005	Entrepreneurship	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
D1015	Business Corporations	3	0	8
D2015	Tax Law	3	0	8
D2024	Intellectual Property Law	3	0	8
D3025	Environmental Law and Sustainable Development	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
D2017	Credit Titles	3	0	8
D3023	Procedural, Administrative and Tax Law	3	0	8
D3024	Amparo Trial I	3	0	8
HS2005	Citizenship	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
D3026	Mercantile Trial Law	3	0	8
D3027	Amparo Trial II	3	0	8
D3028	Alternatives for Dispute Resolution	3	0	8
D3029	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Economics and Finances (LEF)

Graduates from this program are highly skilled in finance and critical thinking, specialized in the analysis and design of economic models for the optimal allocation of physical, monetary and human resources in the corporate, government, social and financial sectors. They have the capacity to propose solutions in areas such as the design and assessment of international commerce, among others.

Competencies for Graduates:

- Understand the economic and financial system within a globalized context.
- Identify, analyze and offer solutions to economic-financial, social and sustainable development issues in a country or region.
- Participate in economic and financial decision making in public and private organizations with a strategic vision and using quantitative and qualitative tools from economic and financial theory.
- Negotiate between diverse economic agencies in conflict situations in business, finance and public policy environments to find the best, most ethical solutions.
- Handle information technologies, databases and programming tools for economic-financial analyses and decision making.
- Transfer knowledge resulting from applied research and studies related to economics and finance in the best interests of social, business

LEF B.A. Economics and Finances
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
EC1007	Economic History	3	0	8
EC1011	Introduction to Economics Field	3	0	4
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA1015	Mathematics I	3	0	8
P1002	Fundamentals of Political Science	3	0	8
		25	**0**	**52**

Second Semester		C	L	U
CF1010	Accounting and Cost Management	3	0	8
EC1008	Enterprise Economics	3	0	8
EC1009	Macroeconomic Environment	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MA1017	Mathematics II	3	0	8
RI2029	History of Contemporary Mexico	3	0	8
		18	**0**	**48**

Third Semester		C	L	U
CF2015	Financial Information Analysis	3	0	8
EC2009	Intermediate Microeconomics	3	0	8
EC2023	Intermediate Macroeconomics	3	0	8
H1018	Ethics, Self and Society	3	0	8
MA1020	Statistics I	3	0	8
MA2000	Mathematics for Economics I	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
EC2024	Game Theory and Strategic Decisions	3	0	8
EC3021	International Finance and Open Economy	3	0	8
EC3022	Consumer Theory	3	0	8
FZ1006	Personal and Business Finance	3	0	8
MA2011	Statistics II	3	0	8
MA3001	Mathematics for Economics II	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
CO2003	Quantitative Social Research Methods	3	0	8
EC2013	Econometrics I	3	0	8
EC3023	Mathematical Economics	3	0	8
EC3025	Theory and Pricing Strategies	3	0	8
FZ2006	Money and Capital Markets	3	0	8
FZ2014	Management of Banks and Financial Groups	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
EC2016	Monetary Theory and Politics	3	0	8
EC3002	Econometrics II	3	0	8
EC3024	Dynamic Macroeconomics	3	0	8
EC3026	Industrial Organization and Regulation	3	0	8
EC3030	Financial Economics	3	0	8
EM1005	Entrepreneurship	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
EC3008	Time Series Analysis	3	0	8
EC3009	Theory and Politics of International Commerce	3	0	8
EC3027	Economic Growth	3	0	8
EC3029	Managerial Economics and Incentives	3	0	8
EC3031	Macroeconomics and Business Cycles	3	0	8
FZ3027	Derivatives Valuation	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
EC3012	Social Evaluation of Projects	3	0	8
EC3032	Public Sector Economics and Social Well-Being	3	0	8
FZ3030	Financial Modeling	3	0	8
HS2005	Citizenship	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
EC3034	Seminar on Economic, Financial and Political Analysis	3	0	8
EC3035	Introduction to Professional Development	2	0	2
FZ2017	Debt Instruments and Securitization	3	0	8
FZ3031	Risk Management and Regulation	3	0	8
HS2006	Applied Ethics	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. International Relations (LRI)

Graduates from this program are professionals who analyze the panorama to make decisions in public and private international spaces; have an in-depth knowledge of the diverse regions of the world; visualize the major trends that comprise the contemporary global agenda; and are trained to design, negotiate and execute international policies and programs in the fields of diplomacy, economics, politics, enterprise and culture.

LRI

Competencies for Graduates:

- Analyze national and international contexts to design sustainable development strategies.
- Design, promote, operate and evaluate action programs in public and private settings to address the challenges of an interdependent world.
- Plan and execute international policies and programs in diplomatic, political, business, social and cultural settings.
- Identify the factors that affect international negotiation processes within the framework of globalization and regionalization.
- Conceive, plan and implement strategic projects with a business vision, based on an indepth knowledge of international law, international organizations and foreign policy.

LRI B.A. International Relations
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
H1016	Foreign Language	5	0	8
MA1016	Mathematics I	3	0	8
P1002	Fundamentals of Political Science	3	0	8
RI1008	World History of the 19th Century	3	0	8
RI1009	Introduction to International Relations Academic Program	3	0	4
RI2028	History of Independent Mexico	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
H1040	Analysis and Verbal Expression	5	0	8
H2033	Social Anthropology	3	0	8
MA1008	Statistics for Research in the Social Sciences	3	0	8
RI1004	International Politics	3	0	8
RI2029	History of Contemporary Mexico	3	0	8
RI2030	World History of the 20th and 21st Centuries	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
CO2003	Quantitative Social Research Methods	3	0	8
EC1008	Enterprise Economics	3	0	8
H1045	Literature and Power in Latin America	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
P1000	Sociology	3	0	8
RI2031	Geopolitics and Global Changes	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CO2004	Qualitative Research Methods	3	0	8
D1012	Constitutional Law	3	0	8
EC1009	Macroeconomic Environment	3	0	8
H1018	Ethics, Self and Society	3	0	8
MT1003	Marketing and Creativity	3	0	8
P2009	Classical Political Thinking	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
H1026	Philosophy and Contemporary Thought	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
P2001	State and Economy	3	0	8
RI2007	Legal Aspects of International Relations	3	0	8
RI2012	Latin American and Caribbean Regional Scenario	3	0	8
RI2032	International Relations Theory I	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
EC2025	Global Economics	3	0	8
EM1005	Entrepreneurship	3	0	8
RI2008	North American Regional Scenario	3	0	8
RI2013	Europe Regional Scenario	3	0	8
RI3016	International Relations Theory II	3	0	8
VA2010	Topics I	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
NI3036	International Trade Agreements	3	0	8
P3011	Civil Society and Citizen Participation	3	0	8
RI2014	International Organizations and Institutions	3	0	8
RI2016	Asia Pacific Regional Scenario	3	0	8
RI2033	Mexican Foreign Policy	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
P3014	Managing of Social Projects	3	0	8
RI2015	Foreign Policy Analysis	3	0	8
RI3002	Africa Regional Scenario	3	0	8
RI3005	Strategic Prospective	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
RI2017	Middle East Regional Scenario	3	0	8
RI2034	Negotiation and Conflict Management	3	0	8
RI3006	International Relations Seminar	3	0	8
RI3019	Introduction to Professional Development	2	0	2
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Social Transformation (LTS)

Graduates are professionals with a solid preparation in Social Sciences, with a marked interdisciplinary approach. They are experts in analyzing contemporary social dynamics, such as exclusion, poverty, margination and sustainable development, and competent in designing, managing and executing social transformation projects in public and private settings. These professionals coordinate actions and projects that involve diverse social actors to address the needs of vulnerable groups, thereby improving their living conditions.

LTS

Competencies for Graduates:

- Analyze the contemporary social dynamics based on Social Science approaches, theories and methodologies, integrating interdisciplinary visions through the application of concepts, principles and a frame of reference with a focus on ethics and social responsibility.
- Design, manage and execute social transformation projects with quantitative, qualitative and prospective methodologies.
- Identify and evaluate, with a solid disciplinary foundation, needs and opportunities in diverse social contexts in order to innovate and generate social impact models, either from their role in public administration, at the municipal, state and federal levels, in private enterprise or civil society organizations, or creating or participating in non-governmental organizations.
- Apply theoretical knowledge, procedural abilities and analytical skills to the design and efficient management of social projects and initiatives in government agencies, in the areas of corporate social responsibility or civil society organizations.
- Lead work teams effectively, appreciating diversity and competently handling management processes that will lead to the implementation of social impact initiatives.
- Promote efficient multidisciplinary work teams to fulfill social transformation objectives in public spaces and civil society.
- Consolidate a global outlook of contemporary social issues in order to interact in national and international settings, incorporating the cultural, political, economic and social context.

LTS B.A. Social Transformation
Edition 2017

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1016	Mathematics I	3	0	8
OP1008	Exploration Elective A -I	3	0	8
OP1009	Exploration Elective A -II	3	0	8
OP1019	Exploration Elective A - III	3	0	8
RI1014	Introduction to Social Sciences	3	0	4
		25	**0**	**52**

Second Semester		C	L	U
CO2004	Qualitative Research Methods	3	0	8
H1018	Ethics, Self and Society	3	0	8
H2033	Social Anthropology	3	0	8
MA1008	Statistics for Research in the Social Sciences	3	0	8
OP1010	Exploration Elective B -I	3	0	8
OP1011	Exploration Elective B -II	3	0	8
		18	**0**	**48**

Third Semester		C	L	U
CO2003	Quantitative Social Research Methods	3	0	8
H2006	Contemporary Literature and Society	3	0	8
OP1013	Exploration Elective C -I	3	0	8
OP1014	Exploration Elective C -II	3	0	8
RI2029	History of Contemporary Mexico	3	0	8
VA1000	Complementary Exploration Elective	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
OP1015	Exploration Elective C -III	3	0	8
OP1016	Exploration Elective C -IV	3	0	8
OP1017	Exploration Elective C -V	3	0	8
OP1018	Exploration Elective C -VI	3	0	8
P1000	Sociology	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
AD3024	Planning, Innovation and Strategic Sustainability	3	0	8
CC1012	Psychology and Multicultural Environment Leadership	3	0	8
DS3002	Natural Resources Management and Climate Change	3	0	8
EC1009	Macroeconomic Environment	3	0	8
EM1005	Entrepreneurship	3	0	8
RI3005	Strategic Prospective	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
D3025	Environmental Law and Sustainable Development	3	0	8
DS3003	Social Responsibility and Corporate Sustainability	3	0	8
EC2025	Global Economics	3	0	8
HS2005	Citizenship	3	0	8
HS2006	Applied Ethics	3	0	8
P3014	Managing of Social Projects	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
OP3051	Professional Elective I	3	0	8
OP3052	Professional Elective II	3	0	8
OP3053	Professional Elective III	3	0	8
OP3054	Professional Elective IV	3	0	8
OP3055	Professional Elective V	3	0	8
OP3056	Professional Elective VI	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
OP3061	Complementary Professional Elective I	3	0	8
OP3062	Complementary Professional Elective II	3	0	8
OP3063	Complementary Professional Elective III	3	0	8
OP3064	Complementary Professional Elective IV	3	0	8
OP3065	Complementary Professional Elective V	3	0	8
OP3066	Complementary Professional Elective VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
RI3019	Introduction to Professional Development	2	0	2
VA3101	Elective I	3	0	8
VA3102	Elective II	3	0	8
VA3103	Elective III	3	0	8
VA3104	Elective IV	3	0	8
VA3105	Elective V	3	0	8
VA3106	Elective VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Elective Courses

Exploration Elective A, B and C

		C	L	U
CO2008	Communication and Media Studies	3	0	8
D1012	Constitutional Law	3	0	8
EC1008	Enterprise Economics	3	0	8
H1026	Philosophy and Contemporary Thought	3	0	8
MI1002	Fundamentals of Journalism	3	0	8
P1002	Fundamentals of Political Science	3	0	8
P2009	Classical Political Thinking	3	0	8
P2010	Politics, Media and Public Opinion	3	0	8
RI1004	International Politics	3	0	8
RI2012	Latin American and Caribbean Regional Scenario	3	0	8
RI2030	World History of the 20th and 21st Centuries	3	0	8

Professional Elective Courses (1)

Global Issues		C	L	U
NI3035	Intercultural Negotiation and Communication	3	0	8
RI2016	Asia Pacific Regional Scenario	3	0	8
RI2017	Middle East Regional Scenario	3	0	8
RI2031	Geopolitics and Global Changes	3	0	8
RI2032	International Relations Theory I	3	0	8
RI2034	Negotiation and Conflict Management	3	0	8

Communication and Public Relations		C	L	U
AV3001	Interactive Media Design and Production	3	0	8
CO3007	Advertising and Integrated Marketing	3	0	8
CR2001	Corporate Image	3	0	8
CR2002	Public Relations	3	0	8
CR2003	Applied Strategic Communication	3	0	8
CR3000	Organizational Communications Consulting	3	0	8

Concentraciones que acreditan materias optativas profesionales complementarias (1)

Análisis Financiero y Administración de Inversiones

Obligatory Courses		C	L	U
AR1013	Drawing	4	0	8
H2003	Contemporary Art and Society	3	0	8
H2023	History of Latin-American Art	3	0	8

Optional Courses (Choose three)		C	L	U
A2004	Paint	3	0	8
A2005	Mexican Popular Arts	3	0	8
A2007	Mexican Mural Movement	3	0	8
AT1001	Artistic Drawing	4	0	8
FZ3002	Credit Management	3	0	8
H1032	Mexican Identity and Culture	3	0	8
H1037	Film, Literature and Culture	3	0	8

Business Finance

Obligatory Course		C	L	U
FZ2008	Risk and Insurance	3	0	8
FZ2018	Project Finance for Business	3	0	8
FZ3026	Valuation, Mergers and Acquisitions	3	0	8

Optional Courses (Choose three)		C	L	U
FZ2000	Financial Management	3	0	8
FZ2001	Stock Market	3	0	8
FZ2002	Financial Institutions	3	0	8
FZ2005	Financial Sources	3	0	8
FZ3002	Credit Management	3	0	8
FZ3009	International Financial Management	3	0	8

(1)Non-accredited Professional Concentrations may also be considered as Complementary Professional Concentrations.

Tourism		C	L	U
AD1010	Tourism Proyect I	3	0	8
AD2021	Hospitality Operations Management	3	0	8
AD2022	Tourism Project II	3	0	8
AD2023	Introduction to the Hospitality Industry	3	0	8
MT1008	Promotion and Distribution Management for Tourism	3	0	8
RH2010	Administration of Human Talent in Companies of Services	3	0	8

Journalism Obligatory Courses		C	L	U
MI2005	Production for Informative Journalism	3	0	8
MI2006	Production for Editorial Journalism	3	0	8

Optional Courses (Choose three)		C	L	U
MI3001	Photojournalism	3	0	8
MI3008	Radio Journalism	3	0	8
MI3009	Television Journalism	3	0	8
MI3010	Production of Multimedia Publications	3	0	8

Applied Courses (Choose one)		C	L	U
MI3011	Convergent Journalism	3	0	8
MI3012	Research and Development Journalism	3	0	8

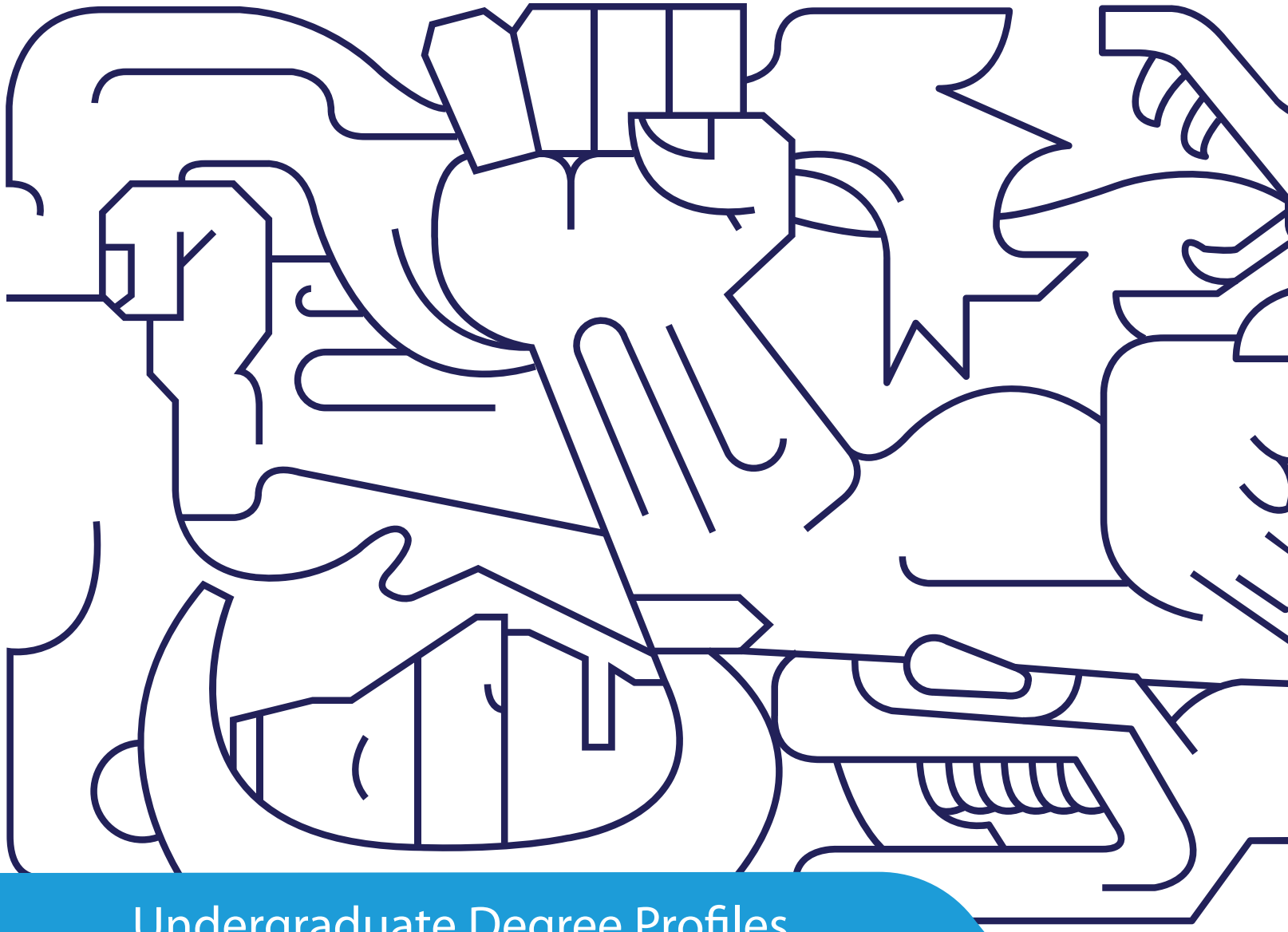
International Business Obligatory Course		C	L	U
NI3031	International Business Project I	3	0	8

Optional Courses (Choose five)		C	L	U
NI1001	Enterprise, Culture and Business in The World	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
NI2001	International Negotiations	3	0	8
NI2014	Business Ethics	3	0	8
NI2016	Legal Aspects of International Commerce	3	0	8
NI2017	Competitive Intelligence and Geo-economics	3	0	8
NI3036	International Trade Agreements	3	0	8

Business Intelligenceational Business Obligatory Courses		C	L	U
TI2002	Business Process Management	3	0	8
TI2005	Decision-Support Data Management	3	0	8
TI3025	Business Intelligence Management	3	2	8
TI3026	Business Intelligence Project	3	0	8

Optional Courses (Choose two)		C	L	U
TI2000	Information Technology Management	3	0	8
TI2012	Data Cleaning and Conforming for Business Analysis	3	0	8
TI3010	Knowledge Management	3	0	8
TI3032	Enterprise Information Systems	3	1	8

(1)Non-accredited Professional Concentrations may also be considered as Complementary Professional Concentrations.



Undergraduate Degree Profiles
and Curricula

School of Humanities and Education

B.S. Digital Music Production Engineering (IMI)

Graduates from this program are professionals with a solid multidisciplinary training that allows them to innovate in the sound-design and digital-music industries. They are knowledgeable and skillful in state-of-the-art technologies, and use musical language creatively to generate innovative proposals in the media, film, videogames, Internet, mobile devices and marketing, among others.

Competencies for Graduates:

- Develop high-definition sound engineering projects, using microphoning, sound reinforcement, editing, mastering and equalizing techniques.
- Generate musical production projects, including sound engineering throughout the preproduction, production and postproduction phases.
- Set music to applications in videogames, the Internet, mobile devices, film, video and collaborate with graphic designers and advertising agents.
- Know the legal and administrative bases for understanding the structure, functioning and trends of the music industry, in relation to the mass media, in order to plan and develop music product sales projects.

IMI B.S. Digital Music Production Engineering

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1041	Music and Society	3	0	8
H1042	Music Theory and Solfége	3	0	8
IM1001	Introduction to Digital Music Production Engineering	3	0	4
MA1015	Mathematics I	3	0	8
		23	**1**	**52**

Second Semester		C	L	U
CO1007	Communication, Signs, and Signification	3	0	8
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1003	Physics II	3	1	8
H1040	Analysis and Verbal Expression	5	0	8
H1044	Music Appreciation I	3	0	8
IM1002	Applied Music Theory Workshop	0	3	4
MA1017	Mathematics II	3	0	8
		20	**4**	**52**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H1018	Ethics, Self and Society	3	0	8
H2035	Music Appreciation II	3	0	8
IM2004	Ear/Instrumental Training Lab	4	0	8
MA2009	Mathematics III	3	0	8
TC1017	Problem Solving with Programming	3	0	8
		19	**1**	**48**

Fourth Semester		C	L	U
AT2006	Theory and Practice of Sound	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
IM2005	Audio Programming	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2010	Differential Equations	3	0	8
TE1012	Electric Circuits	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
AV1004	Audiovisual Language and Narrative	3	0	8
CF1010	Accounting and Cost Management	3	0	8
F2009	Acoustics	3	0	8
MT1003	Marketing and Creativity	3	0	8
TC1015	Introduction to Interactive Design	3	0	8
TE1010	Digital Systems	3	1	8
		18	**1**	**48**

Sixth Semester		C	L	U
AV2006	Media Narrative Design and Production	3	0	8
EC1010	Economy to Business Creation	3	0	8
EM1005	Entrepreneurship	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
IM2006	MIDI Systems	3	0	8
TE1003	Electronics	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
AD2014	Business in the Industry of Music and Entertainment	3	0	8
AV2009	Media Projects Management and Evaluation	3	0	8
HS2005	Citizenship	3	0	8
IM2007	Sound Engineering	3	0	8
IM3006	Digital Audio Systems for Web and Mobile Devices	3	0	8
IM3007	Music Composition and Digital Arranging Workshop	4	0	8
		19	**0**	**48**

Eighth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
IM3008	Music Production and Digital Mixing Workshop	4	0	8
IM3009	Recording Techniques	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		19	**0**	**48**

Ninth Semester		C	L	U
CO3007	Advertising and Integrated Marketing	3	0	8
IM3010	Musical Production Project	3	0	8
IM3011	Post-production and Digital Mastering Workshop	4	0	8
IM3012	Introduction to Professional Development	2	0	2
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		21	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Communication and Digital Media (LCMD)

Graduates from this program are specialists in designing, implementing and managing content on digital media and interactive platforms, supported by digital production media that meet the expectations of diverse organizations, institutions and the information and knowledge society.

LCMD

Competencies for Graduates:

- Design communication strategies, based on principles, concepts and ethical reasoning to benefit organizations or public figures, positioning their image appropriately and channeling it toward the construction of a solid reputation.
- Understand the local and global historical, political, economic and cultural context, and its impact on creative industries, to generate diverse content on the new digital media ecology.
- Study the diverse audiences and publics in order to design, plan, manage, execute and evaluate comprehensive communication campaigns, based on reasoning and ethics.
- Apply communication technology tools to send key messages that target publics of interest, in accordance with the organization or industry's specifications.
- Design, execute and evaluate strategies for monitoring media, users, audiences, consisting of follow-up and information analysis to generate appropriate diagnoses of trends and opinions.
- Analyze and evaluate the content and narrative structures of messages using quantitative and qualitative methodologies to offer growing, constant and effective content possibilities for their organization or industry.
- Foment a vision of digital transformation in all the communication sectors, making it possible to contribute effectively to the development of diverse organizations and industries, and society in general.
- Lead work teams effectively to develop viable communication projects and under appropriate diagnoses to consolidate the creative industry.

LCMD B.A. Communication and Digital Media
Edition 2017

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
CO1008	Introduction to the Area of Communication and Digital Production	3	0	4
H1016	Foreign Language	5	0	8
MA1016	Mathematics I	3	0	8
OP1008	Exploration Elective A -I	3	0	8
OP1009	Exploration Elective A -II	3	0	8
OP1019	Exploration Elective A - III	3	0	8
OP1020	Exploration Elective A - IV	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
H2003	Contemporary Art and Society	3	0	8
OP1010	Exploration Elective B -I	3	0	8
OP1011	Exploration Elective B -II	3	0	8
OP1012	Exploration Elective B -III	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
AV1006	Audio Lab	0	3	4
CC1014	Psychology	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
OP1013	Exploration Elective C -I	3	0	8
OP1014	Exploration Elective C -II	3	0	8
OP1015	Exploration Elective C -III	3	0	8
VA1000	Complementary Exploration Elective	3	0	8
		18	**3**	**52**

Fourth Semester		C	L	U
AV1007	Video Lab	0	3	4
AV2004	Scriptwriting	3	0	8
CO2004	Qualitative Research Methods	3	0	8
CO2008	Communication and Media Studies	3	0	8
EM1005	Entrepreneurship	3	0	8
H1048	Narrative Structures	3	0	8
OP1016	Exploration Elective C -IV	3	0	8
		18	**3**	**52**

Fifth Semester		C	L	U
AV1005	Digital Design Lab	0	3	4
AV3010	Film Production	3	0	8
CO2006	Communication and Cultural Studies	3	0	8
CO2009	Quantitative Measurement and Analysis for Social Research	3	0	8
CR1000	Strategic Communication Fundamentals	3	0	8
HS2006	Applied Ethics	3	0	8
TC1014	Programming Fundamentals	3	0	8
		18	**3**	**52**

Sixth Semester		C	L	U
AV3001	Interactive Media Design and Production	3	0	8
AV3009	Multi-Platform Television Production	3	0	8
CO3006	Communication and Globalization	3	0	8
CR2003	Applied Strategic Communication	3	0	8
HS2005	Citizenship	3	0	8
TC1015	Introduction to Interactive Design	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
OP3051	Professional Elective I	3	0	8
OP3052	Professional Elective II	3	0	8
OP3053	Professional Elective III	3	0	8
OP3054	Professional Elective IV	3	0	8
OP3055	Professional Elective V	3	0	8
OP3056	Professional Elective VI	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
OP3061	Complementary Professional Elective I	3	0	8
OP3062	Complementary Professional Elective II	3	0	8
OP3063	Complementary Professional Elective III	3	0	8
OP3064	Complementary Professional Elective IV	3	0	8
OP3065	Complementary Professional Elective V	3	0	8
OP3066	Complementary Professional Elective VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
CO3009	Introduction to Professional Development	2	0	2
VA3101	Elective I	3	0	8
VA3102	Elective II	3	0	8
VA3103	Elective III	3	0	8
VA3104	Elective IV	3	0	8
VA3105	Elective V	3	0	8
VA3106	Elective VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Elective Courses

Exploration Elective A, B and C

		C	L	U
AD2014	Business in the Industry of Music and Entertainment	3	0	8
AV1000	Photography and Digital Imaging	3	0	8
AV1004	Audiovisual Language and Narrative	3	0	8
AV2006	Media Narrative Design and Production	3	0	8
CO1007	Communication, Signs, and Signification	3	0	8
CO3007	Advertising and Integrated Marketing	3	0	8
DL1002	Design Fundamentals I	4	0	8
H1042	Music Theory and Solfége	3	0	8
MI2005	Production for Informative Journalism	3	0	8
MT1003	Marketing and Creativity	3	0	8
P1000	Sociology	3	0	8

Professional Elective Courses

Interactive Marketing		C	L	U
MT3010	Technology and Marketing	3	0	8
MT3029	Digital Marketing	3	0	8
MT3031	Integrated Advertising Project	3	0	8
MT3033	Marketing Research Project I	3	0	8
MT3034	Marketing Research Project II	3	0	8
MT3035	Interactive Marketing Strategy	3	0	8

Film Production		C	L	U
AV3016	History of Film Industry	3	0	8
AV3017	Advanced Scriptwriting	3	0	8
AV3018	Advanced Film Production	3	0	8
AV3019	Advanced Film Direction	3	0	8
AV3020	Short Film Post-Production	3	0	8
AV3021	Short Film Filming	3	0	8

Complementary Professional Elective Courses

Human Resources Management		C	L	U
AD1006	Organizational Learning and Knowledge Management	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
RH3001	Work Management	3	0	8
RH3007	Organizational Development I	3	0	8
RH3019	Human Resources Project I	3	0	8
RH3020	Human Resources Project II	3	0	8

Innovation		C	L	U
AD3009	Strategic Innovation Management	3	0	8
AD3010	Business Model Innovation	3	0	8
AD3011	Innovation Project I	3	0	8
AD3012	Innovation Project II	3	0	8
AD3016	Business in the Industry of Music	3	0	8
AD3017	Family Business and Corporate Governance	3	0	8

International Business Obligatory Course		C	L	U
NI3031	International Business Project I	3	0	8

Optional Courses. (Choose five)		C	L	U
NI1001	Enterprise, Culture and Business in The World	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
NI2001	International Negotiations	3	0	8
NI2014	Business Ethics	3	0	8
NI2016	Legal Aspects of International Commerce	3	0	8
NI2017	Competitive Intelligence and Geo-economics	3	0	8
NI3036	International Trade Agreements	3	0	8

Journalism Obligatory Courses		C	L	U
MI1002	Fundamentals of Journalism	3	0	8
MI2006	Production for Editorial Journalism	3	0	8

Optional Courses. (Choose three)		C	L	U
MI3001	Photojournalism	3	0	8
MI3008	Radio Journalism	3	0	8
MI3009	Television Journalism	3	0	8
MI3010	Production of Multimedia Publications	3	0	8

Applied Courses. (Choose one)		C	L	U
MI3011	Convergent Journalism	3	0	8
MI3012	Research and Development Journalism	3	0	8

B.A. Spanish Literature (LLE)

Graduates from this program are experts in the production, correction and edition of texts. Their humanistic culture allows them to analyze reality with an ethical, critical sense and to situate mankind as the center of all types of reflection and actions.

Competencies for Graduates:

- Critique a literary text.
- Display an in-depth knowledge of Spanish language and literature.
- Superior written expression skills.
- Generate and edit texts using new technologies.
- Conduct quality research in the areas of Hispanic literature, Spanish language and edition.

LLE B.A. Spanish Literature
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
CO1007	Communication, Signs, and Signification	3	0	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
H1045	Literature and Power in Latin America	3	0	8
H1050	Introduction to Spanish Language and Literature Academic Program	3	0	4
MA1008	Statistics for Research in the Social Sciences	3	0	8
RI2028	History of Independent Mexico	3	0	8
		25	**0**	**52**

Second Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
H1043	Classical Literature	3	0	8
H1046	Spanish Linguistics I	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
P1000	Sociology	3	0	8
RI2029	History of Contemporary Mexico	3	0	8
		18	**0**	**48**

Third Semester		C	L	U
H1031	Contemporary Art and Culture	3	0	8
H1048	Narrative Structures	3	0	8
H2034	Medieval and Renaissance Literature	3	0	8
H2037	Spanish Linguistics II	3	0	8
H2038	Literary Theory I	3	0	8
RI1008	World History of the 19th Century	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
H1047	Discourse and Power	3	0	8
H1049	European Literature of the 17th to 19th Centuries	3	0	8
H2042	Hispanic Philology	3	0	8
H2044	Literary Theory II	3	0	8
H2049	Spanish Medieval Literature	3	0	8
RI2030	World History of the 20th and 21st Centuries	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
H2019	Contemporary World Literature	3	0	8
H2036	Hispanic Colonial Literature	3	0	8
H2040	The Golden Age of Spanish Literature	3	0	8
H3027	Spanish Semantics and Pragmatics	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
TC1025	Information Technologies and Edition	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
AV3013	Publications Design and Production	3	0	8
H1026	Philosophy and Contemporary Thought	3	0	8
H2043	Modern and Contemporary Spanish Literature	3	0	8
H2045	Hispanic American Literature of the 19th and 20th Centuries	3	0	8
H2047	Mexican Literature of the 19th and 20th Centuries	3	0	8
H3030	Spanish and Digital Media	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
AV3001	Interactive Media Design and Production	3	0	8
EM1005	Entrepreneurship	3	0	8
H2046	Hispanic American Literature of the 20th Century	3	0	8
H2048	Mexican Literature of the 20th Century	3	0	8
H3032	Seminar in Literary Criticism I	3	0	8
RI2012	Latin American and Caribbean Regional Scenario	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
H3033	Editing and Text Correction in Spanish	3	0	8
H3035	Seminar in Literary Criticism II	3	0	8
HS2005	Citizenship	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
H3034	Editorial Project and New Technologies	3	0	8
H3039	Introduction to Professional Development	2	0	2
H3040	Seminar in Literary Criticism III	3	0	8
HS2006	Applied Ethics	3	0	8
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Psychology (LP)

Graduates from this program apply the principles, techniques and scientific knowledge developed in psychology in order to assess, diagnose, explain, treat, modify and prevent inappropriate behaviors, develop healthy lifestyle conditions, and design the planning and management of individual human capital that significantly affects the organization's climate and culture.

LP

Competencies for Graduates:

- Apply the knowledge and methods of social, biological and psychological sciences to diagnose and treat human behavior.
- Participate in psychological diagnoses, treatments and prevention in individuals, groups, social groups and organizations.
- Conduct studies on biopsychosocial phenomena and formulate intervention protocols in local and global settings.
- Design and manage programs in multidisciplinary teams to promote the comprehensive wellbeing of individuals and organizations.
- Undertake innovative actions, as agents of change, to promote the development and management of human capital that will impact the climate and culture of organizations.
- Design and organize human capital planning, management and development processes in diverse settings.
- Knowledgeable and aware of the economic, social and political reality of their environment; act with solidarity and responsibility to improve the quality of life in communities.
- Identify, analyze and assess ethical dilemmas related to their personal lives, profession and environment; respect others and the environment.
- Communicate the results of clinical notes, psychological reports, projects and/or studies efficiently, both orally and in writing, in Spanish and in English.
- Propose supportive, sustainable solutions to develop citizenship competencies in the communities in which they conduct their development projects.

LP B.A. Psychology
Edition 2012

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CC1000	Human Development I	3	0	8
CC1003	General Psychology I	3	0	8
CC1016	Introduction to the Psychology Academic Program	3	0	4
H1016	Foreign Language	5	0	8
MD1029	Chemical Foundations of Metabolism and Physiology	3	0	8
MD1031	Cell Biology	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
CC1001	Human Development II	3	0	8
CC1007	General Psychology II	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1016	Mathematics I	3	0	8
MD1034	Developmental Biology	3	0	8
MD1036	Basic Morphophysiology	5	0	12
		22	**0**	**52**

Third Semester		C	L	U
AD1006	Organizational Learning and Knowledge Management	3	0	8
CC1011	Personality Development	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MD1032	Historical Foundations in Health Sciences	3	0	8
TI1012	Business Information Technology	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CC1005	Learning and Cognitive Development	3	0	8
CC2015	Psychopathology I	3	0	8
CO2004	Qualitative Research Methods	3	0	8
H1018	Ethics, Self and Society	3	0	8
H2033	Social Anthropology	3	0	8
MA1008	Statistics for Research in the Social Sciences	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
CC2001	Social Psychology	3	0	8
CC2012	Scale Design	3	0	8
CC2016	Psychopathology II	3	0	8
CO2003	Quantitative Social Research Methods	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MD1050	Psychophysiology	5	0	12
		20	**0**	**52**

Sixth Semester		C	L	U
AD3018	Planning Processes and Models	3	0	8
CC2010	Psychometrics I	3	0	8
CC2011	Group Dynamics	3	0	8
EM1005	Entrepreneurship	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
RI2034	Negotiation and Conflict Management	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
CC2007	Educational Technology	3	0	8
CC2013	Psychometrics II	3	0	8
CC2014	Interview Workshop	3	0	8
CC3004	Psychology Seminar of Vulnerable Groups	3	0	8
HS2005	Citizenship	3	0	8
RH3006	Strategic Training Management	3	0	8
		18	**0**	**48**

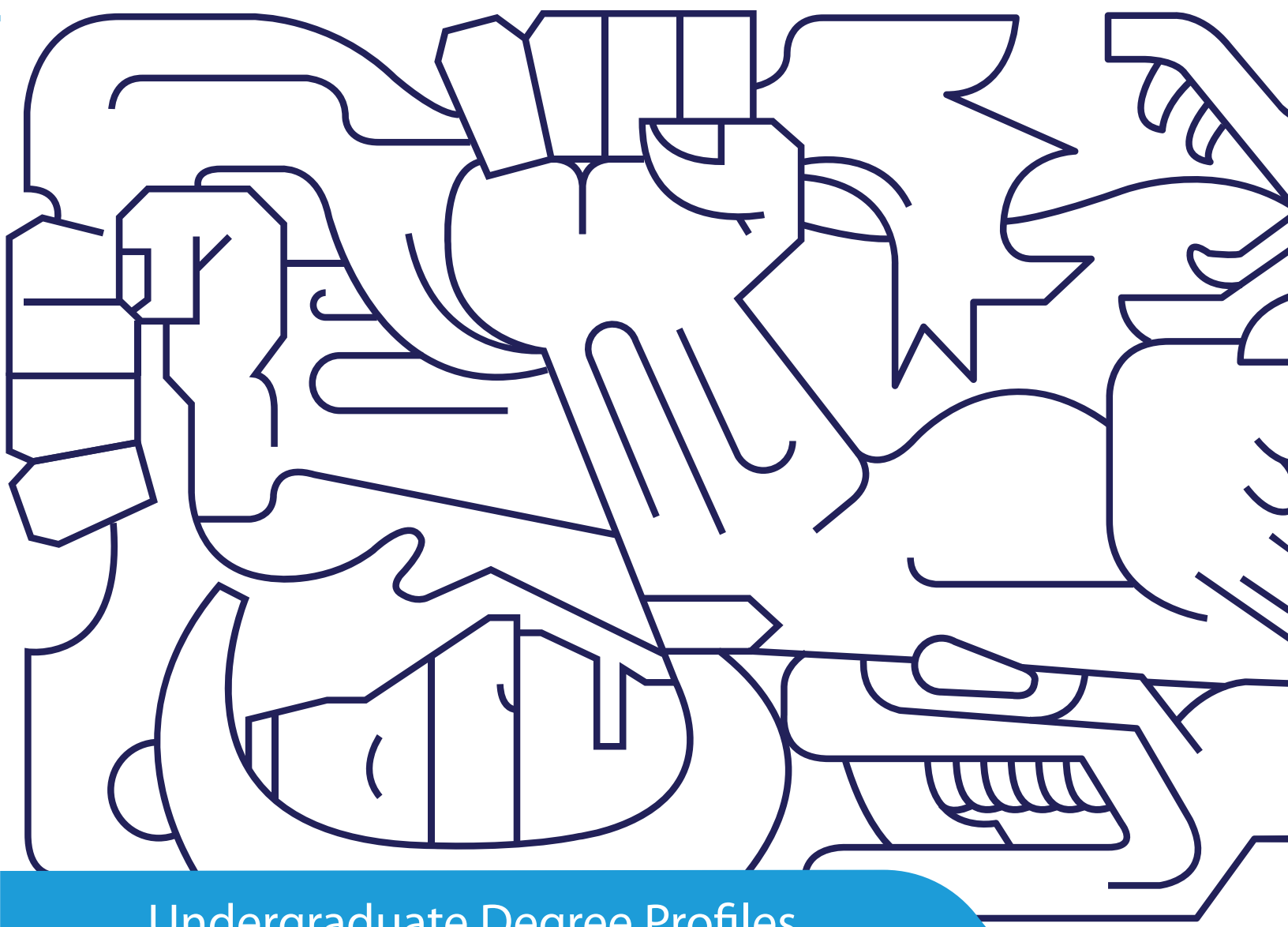
Eighth Semester		C	L	U
RH3012	Human Capital Attraction and Retention	3	0	8
RH3013	Performance Evaluation	3	0	8
RH3016	Organizational Development I	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
CC3002	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
RH3015	Management Compensations	3	0	8
RH3017	Organizational Development II	3	0	8
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)



Undergraduate Degree Profiles
and Curricula

School of Engineering and Sciences

Bioengineering and Chemical Process

B.S. Agronomy Engineering (IA)

Graduates from this program apply their knowledge and skills to handle the diverse components of agricultural production systems, considering the principles of innovation and sustainability in natural resource management. They have a vision of the areas of opportunity within value chains for animal-and, plant-based products (biotechnological and organic), using efficient, environmentally-compatible processes.

Competencies for Graduates:

- Design innovative animal and plant production systems to assure the quality and availability of agricultural products.
- Identify the areas that could be improved in food production systems, proposing viable solutions, developing, adapting or transferring technology to the agricultural sector.
- Formulate and implement alternative solutions to problems and evaluate their results in controlled agricultural and livestock production environments, designing and applying oversight and control methods based on new technologies.
- Propose technological innovations with responsibility and social commitment, prioritizing creativity and long-term vision toward sustainable development. .

IA B.S. Agronomy Engineering
Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
AG1010	Introduction to Agronomy	3	0	4
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
BT1002	Genetics	3	0	8
F1003	Physics II	3	1	8
HS2000	Humanities and Fine Arts	3	0	8
MA1017	Mathematics II	3	0	8
Q1007	Structural Organic Chemistry	3	0	8
TC1017	Problem Solving with Programming	3	0	8
		18	**1**	**48**

Third Semester		C	L	U
AG1008	Agricultural Equipment and Mechanization	3	0	8
BT1003	Molecular Biology	3	0	8
H1018	Ethics, Self and Society	3	0	8
MA1006	Probability and Statistics	3	0	8
Q1014	Experimental Chemistry	0	6	8
Q2000	Biochemistry	3	0	8
		15	**6**	**48**

Fourth Semester		C	L	U
AG1009	Systematic Botany	3	0	8
AG2000	Animal Anatomy and Physiology	3	0	8
AG3000	Plant Anatomy and Physiology	3	0	8
BT2004	Tissue Culture	3	0	8
BT3000	Tissue Culture Laboratory	0	3	4
CF1010	Accounting and Cost Management	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
		18	**3**	**52**

Fifth Semester		C	L	U
AG2020	Soils and Plant Nutrition	3	0	8
BT1007	Microbiology Laboratory	0	3	4
BT2001	Genetic Engineering	3	0	8
BT2003	Microbiology	3	0	8
EC1010	Economy to Business Creation	3	0	8
IB3004	Precision Agriculture	3	0	8
MA2010	Differential Equations	3	0	8
		18	**3**	**52**

Sixth Semester		C	L	U
AG2019	Entomology	3	0	8
AG2021	Livestock Biosecurity	3	0	8
AG2022	Irrigations Systems Laboratory	0	3	4
AG2023	Livestock Nutrition and Feeding	3	0	8
AG2024	Irrigation Systems	3	0	8
EM1005	Entrepreneurship	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
		18	**3**	**52**

Seventh Semester		C	L	U
AG2014	Plant Pathology	3	0	8
AG2025	Agricultural Residency	3	0	8
HS2005	Citizenship	3	0	8
IN2025	Project Evaluation and Management	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
AG3018	New Product Development	3	0	8
AG3019	Agribusiness Management	3	0	8
AG3020	Livestock Production and Reproduction	3	0	8
AG3021	Production Systems in Protected Agriculture	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AG3022	Agricultural Science Capstone Project	3	0	8
AG3023	Milk Production Systems	3	0	8
AG3024	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
TA3006	Postharvest Technology and Physiology	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Biobusiness Engineering (IBN)

Graduates from this program are professionals who detect and create opportunities in the application of technological developments to generate products and processes related to biological systems, determining their impact and economic value in new innovation markets.

IBN

Competencies for Graduates:

- Understand the basic principles of biotechnology and its industrial applications to develop products, processes and materials of biological origin.
- Use bioengineering in the fields of agrifood, the environment, energy and medicine.
- Design biotechnological product entrepreneurship and marketing models for both traditional and emerging markets.
- Generate business models for financial resource management and value chain optimization.
- Evaluate the market potential of biotechnological innovations from commercial and legal perspectives to guarantee their competitiveness.
- Develop a strategic vision that makes it possible to translate technological innovations into sustainable, ethically responsible businesses.

IBN B.S. Biobusiness Engineering
Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
IB1004	Introduction to Biobusiness Engineering	3	0	4
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
BT1002	Genetics	3	0	8
F1003	Physics II	3	1	8
MA1017	Mathematics II	3	0	8
Q1007	Structural Organic Chemistry	3	0	8
Q1014	Experimental Chemistry	0	6	8
TC1017	Problem Solving with Programming	3	0	8
		15	**7**	**48**

Third Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
BT1003	Molecular Biology	3	0	8
H1018	Ethics, Self and Society	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA2009	Mathematics III	3	0	8
Q2000	Biochemistry	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
BT1007	Microbiology Laboratory	0	3	4
BT2003	Microbiology	3	0	8
CF1010	Accounting and Cost Management	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
IQ2001	Thermodynamics	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA2010	Differential Equations	3	0	8
		18	**3**	**52**

Fifth Semester		C	L	U
BT2001	Genetic Engineering	3	0	8
D1022	Business Law and Intellectual Property	3	0	8
EC1010	Economy to Business Creation	3	0	8
IB2007	Agri-food Bioengineering	3	0	8
IB3007	Strategic Information Systems in Biobusiness	3	0	8
MA1006	Probability and Statistics	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
BT2002	Genetic Engineering Laboratory	0	3	4
BT2004	Tissue Culture	3	0	8
EM1005	Entrepreneurship	3	0	8
IB2008	Energy and Environmental Bioengineering	3	0	8
IB3010	Regulatory Framework in Biotechnology	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
MT1003	Marketing and Creativity	3	0	8
		18	**3**	**52**

Seventh Semester		C	L	U
AD2011	Innovation, Markets and Technological Development	3	0	8
BI2008	Medical Technologies	3	0	8
BT2013	Pharmaceutical Bioengineering	3	0	8
BT3000	Tissue Culture Laboratory	0	3	4
BT3013	Bioprocess Laboratories	0	3	4
CF2015	Financial Information Analysis	3	0	8
IN2025	Project Evaluation and Management	3	0	8
		15	**6**	**48**

Eighth Semester		C	L	U
HS2005	Citizenship	3	0	8
IN2030	Manufacturing Models	3	0	8
IN3041	Project Feasibility	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AG2012	Perishable Products Logistics	3	0	8
BT3001	Food and Bioproducts Development	3	0	8
HS2006	Applied Ethics	3	0	8
IB3015	Innovative Project in Biobusiness	3	0	8
IB3016	Introduction to Professional Development	2	0	2
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Biotechnology Engineering (IBT)

Graduates from this program are professionals with an interdisciplinary vision, focusing on biotechnological processes for the development, production and innovation of services for diverse industrial sectors: pharmaceutical, environmental, food, healthcare and bioenergy, among others.

IBT

Competencies for Graduates:

- Develop and design high-value products and commercially viable, innovative biotechnological processes within a framework of legality, ethics and sustainable development.
- Innovate and generate new biotechnological technologies derived from the latest scientific discoveries in the diverse industrial sectors.
- Promote the generation of technology-based companies applying cutting-edge knowledge and making the most of market opportunities.
- Perform specialized consulting and molecular diagnosis services in companies and research centers.

IBT B.S. Biotechnology Engineering

Edition 2017

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
BT1012	Introduction to Area of Bioengineering and Chemistry	3	0	4
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
MA1015	Mathematics I	3	0	8
OP1008	Exploration Elective A -I	3	0	8
OP1009	Exploration Elective A -II	3	0	8
Q1001	Chemistry	3	0	8
		23	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H1040	Analysis and Verbal Expression	5	0	8
MA1017	Mathematics II	3	0	8
OP1010	Exploration Elective B -I	3	0	8
OP1011	Exploration Elective B -II	3	0	8
OP1012	Exploration Elective B -III	3	0	8
		20	**1**	**48**

Third Semester		C	L	U
MA2010	Differential Equations	3	0	8
OP1013	Exploration Elective C -I	3	0	8
OP1014	Exploration Elective C -II	3	0	8
OP1015	Exploration Elective C -III	3	0	8
TC1017	Problem Solving with Programming	3	0	8
VA1000	Complementary Exploration Elective	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
BT1007	Microbiology Laboratory	0	3	4
F1005	Electricity and Magnetism	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
OP1016	Exploration Elective C -IV	3	0	8
OP1017	Exploration Elective C -V	3	0	8
OP1018	Exploration Elective C -VI	3	0	8
		18	**4**	**52**

Fifth Semester		C	L	U
BT2011	Bioprocess Engineering I	3	0	8
H1018	Ethics, Self and Society	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
IQ2003	Equilibrium Thermodynamics	3	0	8
MA1006	Probability and Statistics	3	0	8
Q1010	Analytical Chemistry	3	0	8
Q2015	Physical Chemistry Measurements Laboratory	0	3	4
		18	**3**	**52**

Sixth Semester		C	L	U
BT2012	Bioprocess Engineering II	3	0	8
EC1010	Economy to Business Creation	3	0	8
EM1005	Entrepreneurship	3	0	8
HS2005	Citizenship	3	0	8
HS2006	Applied Ethics	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
IQ3006	Thermo-mechanical Operations Laboratory	0	3	4
		18	**3**	**52**

Seventh Semester		C	L	U
OP3051	Professional Elective I	3	0	8
OP3052	Professional Elective II	3	0	8
OP3053	Professional Elective III	3	0	8
OP3054	Professional Elective IV	3	0	8
OP3055	Professional Elective V	3	0	8
OP3056	Professional Elective VI	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
OP3061	Complementary Professional Elective I	3	0	8
OP3062	Complementary Professional Elective II	3	0	8
OP3063	Complementary Professional Elective III	3	0	8
OP3064	Complementary Professional Elective IV	3	0	8
OP3065	Complementary Professional Elective V	3	0	8
OP3066	Complementary Professional Elective VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
BT3014	Bioengineering Design Project	3	0	8
BT3025	Introduction to Professional Development	2	0	2
VA3101	Elective I	3	0	8
VA3102	Elective II	3	0	8
VA3103	Elective III	3	0	8
VA3104	Elective IV	3	0	8
VA3105	Elective V	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Elective Courses

Exploration Elective A, B and C

		C	L	U
BT1003	Molecular Biology	3	0	8
BT1009	Biology and Sustainable Development	3	0	8
BT2003	Microbiology	3	0	8
IN2025	Project Evaluation and Management	3	0	8
IQ1001	Material Balances	3	0	8
IQ2000	Energy Balance	3	0	8
IQ2001	Thermodynamics	3	0	8
Q1007	Structural Organic Chemistry	3	0	8
Q1014	Experimental Chemistry	0	6	8
Q2000	Biochemistry	3	0	8
Q2001	Food Chemistry	3	0	8

Professional Elective Courses (1)

Molecular Biology		C	L	U
BT2001	Genetic Engineering	3	0	8
BT2002	Genetic Engineering Laboratory	0	3	4
BT2004	Tissue Culture	3	0	8
BT2008	Molecular Diagnostics I	3	0	8
BT2009	Molecular Diagnostics II	3	0	8
BT3000	Tissue Culture Laboratory	0	3	4
BT3007	Analysis and Genetic Breeding	3	0	8

Complementary Professional Elective Courses (1)

Business Creation		C	L	U
DDE2002	Innovation and Designing a Product or Service	3	0	8
DE3013	Pre-Incubation and Business Feasibility	1	4	8
DE3014	Incubation and Business Models	1	4	8
DE3016	Incubation and Financing of New Ventures	1	4	8
DE3017	Strategies for Market Positioning	3	0	8
DE3018	Incubation and Strategic Control of Cash Flow	1	4	8

Environmental Management and Negotiation		C	L	U
DS1002	Ecosystems and Biodiversity	3	0	8
DS1004	Sustainable Development Principles	3	0	8
IQ1002	Environmental management of business and projects	3	0	8
RN1000	Environmental Impact	3	0	8
RN1001	Applied Ecology	3	0	8
RN1004	Environmental Project	3	0	8

(1)Non-accredited Professional Concentrations may also be considered as Complementary Professional Concentrations.

B.S. Sustainable Development Engineering

Graduates from this program are professionals with who participate in the generation and efficient use of energy, natural resource protection and identification of new business opportunities.

They generate and implement comprehensive investment proposals in topics related to energy, the sustainable use of resources and waste management, considering the need to generate wealth, as well as the aspects of social responsibility and public policy.

Competencies for Graduates:

- Design projects related to energy, waste management and the sustainable use of resources, ensuring their technical and economic feasibility.
- Analyze, evaluate and solve multidisciplinary problems related to the sustainable use of natural resources, the diverse sources of energy and their social, economic, environmental and climate-change impacts.
- Understand the phenomena and mechanisms involved in the generation and efficient use of energy, emission management and minimization, the sustainable use of water, and their environmental impact.
- Apply the prevailing legislation and public policies and incentives, considering sustainability technologies and natural resource conservation.
- Evaluate comprehensive investment proposals for multisource energy and waste management projects, generating innovative business plans to achieve sustainable development.

IDS B.S. Sustainable Development Engineering

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
DS1006	Introduction to Sustainable Development Engineering	3	0	4
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
DS1002	Ecosystems and Biodiversity	3	0	8
F1003	Physics II	3	1	8
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MA1017	Mathematics II	3	0	8
Q1004	Chemistry Laboratory	0	3	4
TC1017	Problem Solving with Programming	3	0	8
		18	**4**	**52**

Third Semester		C	L	U
DS1004	Sustainable Development Principles	3	0	8
F1005	Electricity and Magnetism	3	1	8
HS2000	Humanities and Fine Arts	3	0	8
IQ1001	Material Balances	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2009	Mathematics III	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
IQ2000	Energy Balance	3	0	8
IQ2001	Thermodynamics	3	0	8
M1003	Statics	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA2010	Differential Equations	3	0	8
TE1002	Electrical Circuits I	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
CV2030	Sustainable Water Use I	3	0	8
EC1010	Economy to Business Creation	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
IQ2005	Momentum Transfer Operations	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
TE1014	Electric Circuits and Measurements Laboratory	0	3	4
TE2032	Electrical Circuits II	3	0	8
		18	**3**	**52**

Sixth Semester		C	L	U
DS2001	Industrial Ecology	3	0	8
DS3002	Natural Resources Management and Climate Change	3	0	8
IN2025	Project Evaluation and Management	3	0	8
IQ2004	Heat Transfer Operations	3	0	8
RI2034	Negotiation and Conflict Management	3	0	8
VA2010	Topics I	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
DS3003	Social Responsibility and Corporate Sustainability	3	0	8
EM1005	Entrepreneurship	3	0	8
F3024	Alternative Energy	3	0	8
IQ3004	Eco-efficiency and Sustainable Processes	3	0	8
M2003	Energy Generation Systems	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
DS3004	Businesses and Ecosystems Conservation	3	0	8
HS2005	Citizenship	3	0	8
IQ3032	Technologies for the Efficient use of Thermal Energy	3	0	8
TE2029	Energy Management and Monitoring Laboratory	0	3	4
TE3053	Energy Distribution Systems	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		18	**3**	**52**

Ninth Semester		C	L	U
DS3005	Capstone Project for Sustainable Development	3	0	8
DS3006	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
TE2042	Technologies for the Efficient use of Electricity	3	0	8
TE3052	Energy Project Management	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Food Industry Engineering (IIA)

Graduates from this program are professionals who apply and integrate the basic food sciences to develop and innovate food engineering products and processes; develop, optimize and manage quality assurance and food safety systems within a framework of legality, ethics, regulations and sustainability.

Competencies for Graduates:

- Design products and processes, and resolve food industry issues, considering technical, economic, environmental, legal, social, political, ethical, healthcare and sustainability factors.
- Apply modern technologies, methods and tools, with particular emphasis on molecular function, food production, new product development, production process enhancement, and food quality and safety assurance.
- Start up their own food-industry business.

IIA B.S. Food Industry Engineering

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
TA1002	Introduction to Food Engineering	3	0	4
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
MA1017	Mathematics II	3	0	8
Q1007	Structural Organic Chemistry	3	0	8
Q1014	Experimental Chemistry	0	6	8
TC1017	Problem Solving with Programming	3	0	8
		15	**7**	**48**

Third Semester		C	L	U
BT1003	Molecular Biology	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
IQ1001	Material Balances	3	0	8
MA2009	Mathematics III	3	0	8
MA2010	Differential Equations	3	0	8
Q2000	Biochemistry	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
IQ2000	Energy Balance	3	0	8
IQ2001	Thermodynamics	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
Q1010	Analytical Chemistry	3	0	8
Q2001	Food Chemistry	3	0	8
TA2008	Food Chemistry Laboratory	0	3	4
		18	**3**	**52**

Fifth Semester		C	L	U
BT1007	Microbiology Laboratory	0	3	4
BT2003	Microbiology	3	0	8
BT2011	Bioprocess Engineering I	3	0	8
EC1010	Economy to Business Creation	3	0	8
MA1006	Probability and Statistics	3	0	8
TA2000	Food Analysis	3	0	8
TA2009	Nutrition and Nutrigenomics	3	0	8
		18	**3**	**52**

Sixth Semester		C	L	U
BT2012	Bioprocess Engineering II	3	0	8
EM1005	Entrepreneurship	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
TA2010	Sensory Evaluation	3	0	8
TA2011	Basic Food Processing	3	0	8
TA2012	Food Analysis Laboratory	0	3	4
TA2013	Basic Food Processing Laboratory	0	3	4
TA2014	Integral Quality Assurance Laboratory	0	3	4
		15	**9**	**52**

Seventh Semester		C	L	U
BT3012	Emerging Process Engineering	3	0	8
BT3013	Bioprocess Laboratories	0	3	4
HS2005	Citizenship	3	0	8
IN2004	Statistical Quality Control	3	0	8
TA3018	Science and Technology of Meat Products	3	0	8
TA3019	Science and Technology of Meat Products Laboratory	0	3	4
VA2010	Topics I	3	0	8
		15	**6**	**48**

Eighth Semester		C	L	U
BT3001	Food and Bioproducts Development	3	0	8
IN2025	Project Evaluation and Management	3	0	8
TA3020	Science and Technology of Cereals and Oil Crops	3	0	8
TA3021	Science and Technology of Dairy Products	3	0	8
TA3022	Science and Technology of Cereals and Oil Crops Laboratory	0	3	4
TA3023	Science and Technology of Dairy Products Laboratory	0	3	4
VA2011	Topics II	3	0	8
		15	**6**	**48**

Ninth Semester		C	L	U
BT3014	Bioengineering Design Project	3	0	8
HS2006	Applied Ethics	3	0	8
TA3004	Food Packaging	3	0	8
TA3024	Food Safety	3	0	8
TA3025	Introduction to Professional Development	2	0	2
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Biomedical Engineering (IMD)

Graduates from this program are professionals with a solid training in biological and medical sciences, enabling them to generate, implement and evaluate technological solutions in order to successfully meet the needs of the health industry. They have the capacity to develop innovative medical devices, systems and services.

Competencies for Graduates:

- Solve health problems in hospitals and industry using engineering in order to propose technological solutions, considering human-body, safety, legal, economic and ecological issues.
- Design and conduct experiments, and complete projects related to biomedical engineering topics, such as physiological modeling, clinical engineering, bioinstrumentation and biomechanical design.
- Lead and interact in teams consisting of professionals from diverse areas, in order to discover other ways of working and other points of view.
- Innovate in healthcare businesses, projects and products.

IMD

IMD B.S. Biomedical Engineering
Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
BI1001	Introduction to Engineering	3	0	4
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
MD1029	Chemical Foundations of Metabolism and Physiology	3	0	8
TC1017	Problem Solving with Programming	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MA1017	Mathematics II	3	0	8
MD1030	Metabolism and Functional Biochemistry	3	0	8
TE1002	Electrical Circuits I	3	0	8
		18	**1**	**48**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
MA2009	Mathematics III	3	0	8
MA2010	Differential Equations	3	0	8
MD1031	Cell Biology	3	0	8
TE1003	Electronics	3	0	8
TE2032	Electrical Circuits II	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
BI1000	Biomaterials	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA3002	Advanced Mathematics	3	0	8
MD1036	Basic Morphophysiology	5	0	12
TE1014	Electric Circuits and Measurements Laboratory	0	3	4
		17	**3**	**48**

Fifth Semester		C	L	U
BI2005	Biomechanics	3	0	8
BI2006	Biomechanics Laboratory	0	3	4
EM1005	Entrepreneurship	3	0	8
MD1040	Musculoskeletal and Digestive Systems	3	0	8
MD1041	Biocontrol Systems	5	0	12
TE2033	Applied Electronics	3	0	8
		17	**3**	**48**

Sixth Semester		C	L	U
BI2007	Healthcare Facility Project	2	0	4
MA1006	Probability and Statistics	3	0	8
MD1045	Vital Processes	5	0	12
MR2004	Control Engineering	3	0	8
TE1010	Digital Systems	3	1	8
TE2034	Integral Electronics Laboratory	0	3	4
TE2035	Analysis of Signals and Systems	3	0	8
		19	**4**	**52**

Seventh Semester		C	L	U
BI3010	Bioinstrumentation	3	0	8
BI3011	Bioinstrumentation Laboratory	0	3	4
BI3012	Modeling of Physiological Systems	3	0	8
HS2005	Citizenship	3	0	8
IN2025	Project Evaluation and Management	3	0	8
TE2023	Microcontrollers	3	0	8
TE2024	Microcontroller Laboratory	0	3	4
		15	**6**	**48**

Eighth Semester		C	L	U
BI2004	Design in Biomedical Engineering	3	0	8
BI3005	Cardiovascular Engineering	3	0	8
BI3013	Medical Imaging	3	1	8
BI3014	Biomedical Technology Laboratory	0	3	4
BI3015	Biomedical Technologies	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**4**	**52**

Ninth Semester		C	L	U
BI3002	Clinical Engineering	3	0	8
BI3016	Neuroengineering	3	0	8
BI3017	Integrative Project	3	0	8
BI3018	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Chemistry and Nanotechnology Engineering (INCQ)

Graduates from this program are professionals competent in materials chemistry areas, biological chemistry and industrial processes chemistry, capable of conducting scientific research that permits the generation and transfer of knowledge that is fundamental for the development of nanomaterials and sustainable technologies.

Competencies for Graduates:

Efficiently use available resources for the synthesis and formulation of traditional chemicals substances and nanomaterials, considering that resources are limited and some are not renewable.

Use your expertise in Chemistry to be a driving force for technological and social progress through innovation in chemistry and nanotechnology.

Do research as a means to the decision making process necessary to innovate, improve and find solutions through chemistry and nanotechnology to industrial, environmental and scientific problems.

Apply your knowledge of Chemistry and instrumental analysis techniques to undertake advanced materials and nanomaterials characterization, for quality assurance of raw materials and products.

INCQ B.S. Chemistry and Nanotechnology Engineering

Edition 2013

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
Q1017	Introduction to Chemical Sciences, Nanotechnology and their Applications	3	0	4
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
MA1017	Mathematics II	3	0	8
Q1007	Structural Organic Chemistry	3	0	8
Q1014	Experimental Chemistry	0	6	8
Q1018	Chemistry of Materials and Nanomaterials	3	0	8
TC1017	Problem Solving with Programming	3	0	8
		15	**7**	**48**

Third Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA2009	Mathematics III	3	0	8
Q1010	Analytical Chemistry	3	0	8
Q1011	Mechanistic Organic Chemistry	3	0	8
Q1015	Modern Methods in Analytical Chemistry	0	6	8
		15	**6**	**48**

Fourth Semester		C	L	U
BT1003	Molecular Biology	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MA2010	Differential Equations	3	0	8
Q1009	General Organic Chemistry Laboratory	0	6	8
Q2000	Biochemistry	3	0	8
Q2002	Molecular Thermodynamics	3	0	8
		15	**6**	**48**

Fifth Semester		C	L	U
HS2005	Citizenship	3	0	8
MA1006	Probability and Statistics	3	0	8
Q1013	Organic Synthesis Laboratory	0	6	8
Q2013	Molecular Kinetics and Dynamics	3	0	8
Q2014	Physical Chemistry Laboratory	0	6	8
Q2018	Instrumental Analytical Chemistry and Nanoscopy	3	0	8
		12	**12**	**48**

Sixth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
Q2003	Metabolic Biochemistry	3	0	8
Q2019	Characterization of Materials and Nanomaterials	0	6	8
Q3002	Instrumental Analytical Chemistry Laboratory	0	6	8
Q3005	Spectroscopic Analysis	3	0	8
		12	**12**	**48**

Seventh Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
Q3016	Macromolecule Design and Synthesis	3	0	8
Q3017	Molecular Structure and Computer-aided Design	3	0	8
Q3018	Analytical Biochemistry Laboratory	0	6	8
Q3024	Synthesis of Materials and Nanomaterials Laboratory	0	6	8
		12	**12**	**48**

Eighth Semester		C	L	U
Q3025	Nanotechnological Formulation for Industry	3	0	8
Q3026	Research Project in Chemistry and Nanotechnology	3	0	8
Q3027	Macromolecular Engineering Laboratory	0	6	8
Q3028	Medicinal Chemistry and Nanomedicine	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		15	**6**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
Q3021	Introduction to Professional Development	2	0	2
Q3029	Integration Project in Chemistry and Nanotechnology	9	0	24
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Chemical Engineering Option A (IQA)

Graduates from this program are professionals who design, operate and manage chemical processes to promote sustainable development based on the application of natural sciences and engineering, considering productivity, technological development and the profitability of organizations. They are trained to model, develop and enhance chemical processes and products, taking into account technical, economic, social, cultural and ethical considerations.

Competencies for Graduates:

- Design process equipment or complete chemical processes to produce materials or products that meet specific market demands.
- Develop and enhance innovative products and services for the chemical industry, adhering to the principles of sustainable development.
- Identify business opportunities in the chemical industry, considering market needs, and the technical and economic feasibility of the processes and their environmental impact.
- Plan and manage a production process, focusing on efficient, quality manufacturing, considering the value chain, from the acquisition and handling of inputs to product marketing.

IQA B.S. Chemical Engineering Option A

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
IQ1004	Introduction to Chemical Engineering	3	0	4
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H1018	Ethics, Self and Society	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA1017	Mathematics II	3	0	8
Q1014	Experimental Chemistry	0	6	8
TC1017	Problem Solving with Programming	3	0	8
		15	**7**	**48**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
IQ1001	Material Balances	3	0	8
MA2009	Mathematics III	3	0	8
MA2010	Differential Equations	3	0	8
Q1010	Analytical Chemistry	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
IQ2000	Energy Balance	3	0	8
IQ2001	Thermodynamics	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
Q1007	Structural Organic Chemistry	3	0	8
Q2012	Industrial Chemistry	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
IN2004	Statistical Quality Control	3	0	8
IQ2003	Equilibrium Thermodynamics	3	0	8
IQ2004	Heat Transfer Operations	3	0	8
IQ2005	Momentum Transfer Operations	3	0	8
Q2015	Physical Chemistry Measurements Laboratory	0	3	4
Q3001	Product Chemistry	3	0	8
		18	**3**	**52**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
IN2022	Optimization Models	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
IQ3003	Chemical Reaction Engineering	3	0	8
IQ3006	Thermo-mechanical Operations Laboratory	0	3	4
IQ3007	Separation Processes	3	0	8
IQ3013	New Products Development Workshop	3	1	8
		18	**4**	**52**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
IN2025	Project Evaluation and Management	3	0	8
IN2027	Discrete Event Simulation	3	0	8
IQ2006	Diffusion Transfer Processes	3	0	8
IQ3008	Chemical Process Analysis	3	0	8
IQ3011	Process Engineering Laboratory	0	3	4
MR2012	Process Automation	3	0	8
		18	**3**	**52**

Eighth Semester		C	L	U
DL3016	Innovation, Design and Business Setting	3	0	8
IN3036	Value-chain Management	3	0	8
IQ3009	Chemical Process Design	3	0	8
IQ3010	Fundamentals of Engineering Microprocesses	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
IN3035	Analysis and Enhancement of Manufacturing Systems	3	0	8
IQ3016	Microprocesses Laboratory	0	3	4
IQ3017	Processes and Products Innovation Project	3	0	8
IQ3039	Introduction to Professional Development	2	0	2
MR2015	Process Automation Laboratory	0	3	4
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		17	**6**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Chemical Engineering Option S (IQP)

Graduates from this program are professionals who focus on the technological design, operation and innovation of chemical processes on the basis of optimizing the use of energy and the development of sustainable chemical processes. Their solid training in chemical engineering, together with the knowledge, management and application of specialized tools, allow them to perform in the areas of technical processes, technological develope pent for the efficient use of materials and energy, and pollution prevention.

Competencies for Graduates:

- Design process equipment or complete chemical processes to produce materials or products that meet specific market demands.
- Identify, propose and evaluate alternative technologies for the optimal operation of new or existing processes, from the perspective of energy and material resource utilization.
- Use material and energy resources efficiently when developing and operating transformation processes.
- Propose and assess improvements and technological innovations for production processes through process intensification, the efficient use of energy, the incorporation of alternative energy sources and the implementation of emission reduction strategies.
- Evaluate the technical and economic feasibility of technological modernization alternatives for processes, energy-saving projects, emission reduction strategies and waste management, considering the legal implications in the evaluation.

IQP B.S. Chemical Engineering Option S

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
IQ1004	Introduction to Chemical Engineering	3	0	4
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H1018	Ethics, Self and Society	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA1017	Mathematics II	3	0	8
Q1014	Experimental Chemistry	0	6	8
TC1017	Problem Solving with Programming	3	0	8
		15	**7**	**48**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
IQ1001	Material Balances	3	0	8
MA2009	Mathematics III	3	0	8
MA2010	Differential Equations	3	0	8
Q1010	Analytical Chemistry	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
IQ2000	Energy Balance	3	0	8
IQ2001	Thermodynamics	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
Q1007	Structural Organic Chemistry	3	0	8
Q2012	Industrial Chemistry	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
F3024	Alternative Energy	3	0	8
IQ2003	Equilibrium Thermodynamics	3	0	8
IQ2004	Heat Transfer Operations	3	0	8
IQ2005	Momentum Transfer Operations	3	0	8
OP2018	Chemistry Elective	3	0	8
Q2015	Physical Chemistry Measurements Laboratory	0	3	4
		18	**3**	**52**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
IQ3003	Chemical Reaction Engineering	3	0	8
IQ3004	Eco-efficiency and Sustainable Processes	3	0	8
IQ3006	Thermo-mechanical Operations Laboratory	0	3	4
IQ3007	Separation Processes	3	0	8
IQ3032	Technologies for the Efficient use of Thermal Energy	3	0	8
		18	**3**	**52**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
IN2025	Project Evaluation and Management	3	0	8
IQ2006	Diffusion Transfer Processes	3	0	8
IQ3008	Chemical Process Analysis	3	0	8
IQ3011	Process Engineering Laboratory	0	3	4
IQ3018	Technology Development Strategies	3	0	8
MR2012	Process Automation	3	0	8
		18	**3**	**52**

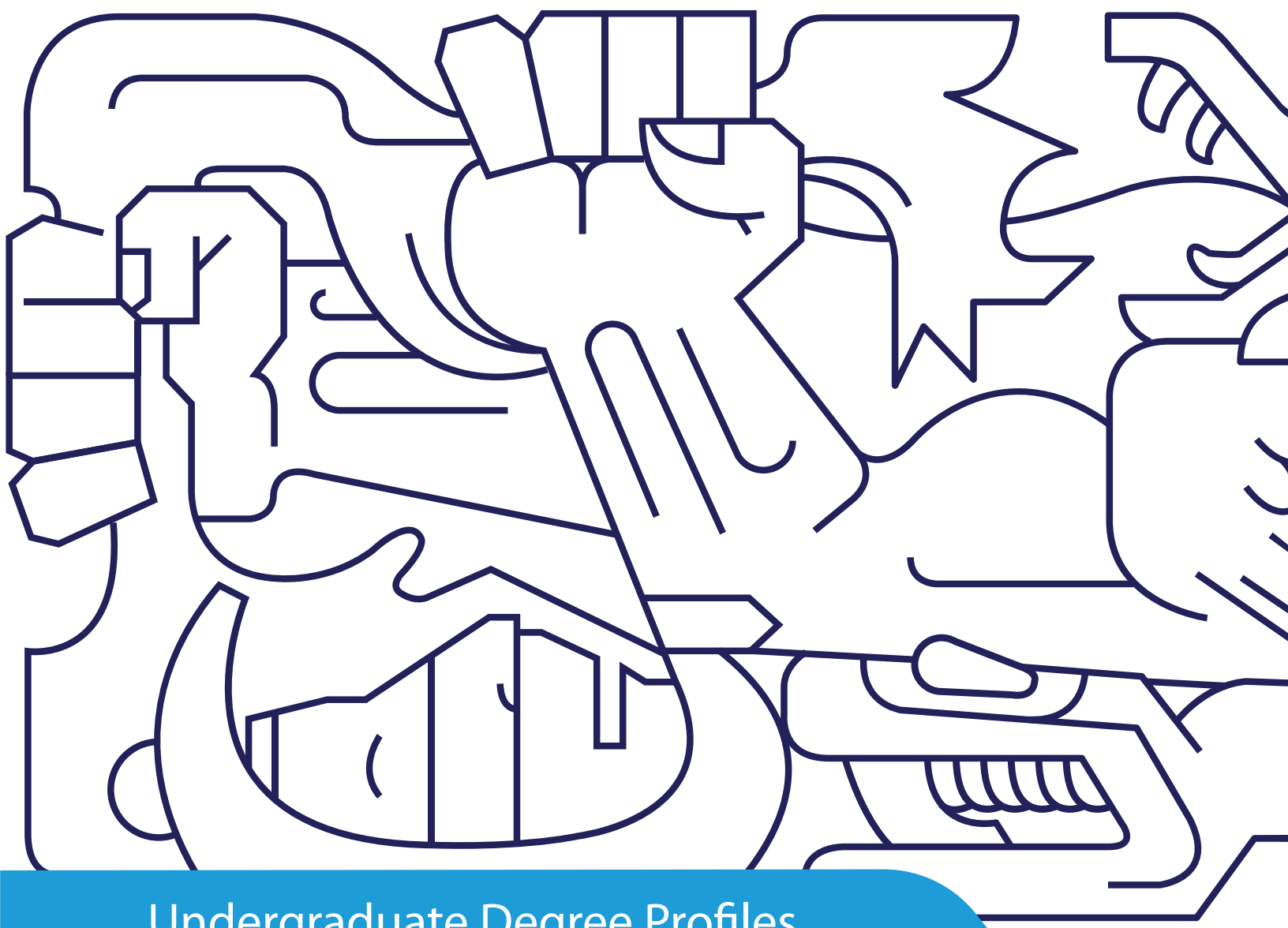
Eighth Semester		C	L	U
IQ3009	Chemical Process Design	3	0	8
IQ3010	Fundamentals of Engineering Microprocesses	3	0	8
IQ3037	Process Modeling	3	0	8
IQ3038	Energy Audit, Diagnosis and Evaluation	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
IQ3016	Microprocesses Laboratory	0	3	4
IQ3036	Process and Energy Engineering Capstone Project	3	0	8
IQ3039	Introduction to Professional Development	2	0	2
IQ3040	Process Sustainability Through Optimization	3	0	8
MR2015	Process Automation Laboratory	0	3	4
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		17	**6**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)



Undergraduate Degree Profiles
and Curricula

School of Engineering and Sciences

Engineering

B.S. Civil Engineering (IC)

Graduates from this program are professionals with the skills to plan, design and/or manage construction projects related to transportation infrastructure (bridges, highways, tunnels), buildings (housing, offices, industrial premises) and water management (drinking water networks, sanitation, treatment plants), with a high level of commitment to the environment and ethical and social responsibility.

Competencies for Graduates:

- Apply basic science and engineering to solve problems in the field of civil engineering: structures, hydraulics, environmental engineering, communication lines, construction and materials management, using the best practices and technological advancements within a framework of sustainable development.
- Identify areas of entrepreneurial opportunity in the construction industry, at national and international levels, and design a business plan for the same.
- Conduct experiments related to water quality, hydraulic phenomena, soil properties and characteristics, and construction materials.

IC B.S. Civil Engineering

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
CV1004	Introduction to Civil Engineering	3	0	4
CV2001	Geology	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
TC1017	Problem Solving with Programming	3	0	8
		23	**1**	**52**

Second Semester		C	L	U
AR1017	Computer-aided Drawing	3	0	8
CV2021	Geomatics	3	0	8
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1003	Physics II	3	1	8
H1040	Analysis and Verbal Expression	5	0	8
MA1017	Mathematics II	3	0	8
Q1004	Chemistry Laboratory	0	3	4
		20	**4**	**52**

Third Semester		C	L	U
CV2022	Geomatics Laboratory	0	3	4
CV2023	Materials and Construction Procedures I	3	0	8
CV2024	Structure Mechanics I	3	0	8
F1005	Electricity and Magnetism	3	1	8
H1018	Ethics, Self and Society	3	0	8
MA2009	Mathematics III	3	0	8
MA2010	Differential Equations	3	0	8
		18	**4**	**52**

Fourth Semester		C	L	U
AR2021	Construction Materials and Procedures II	3	0	8
CV2025	Structure Mechanics II	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
CV2006	Construction Materials Laboratory	0	3	4
CV2007	Soil Mechanics Lab	0	3	4
CV2010	Soil Mechanics	3	0	8
CV2026	Structural Systems	3	0	8
EM1005	Entrepreneurship	3	0	8
M2021	Fluid Mechanics	3	0	8
MA1019	Linear Algebra	3	0	8
		15	**6**	**48**

Sixth Semester		C	L	U
CV2013	Hydrology	3	0	8
CV2027	Construction Costs	3	0	8
CV3004	Highway Engineering	3	0	8
CV3005	Foundations Engineering	3	0	8
CV3006	Hydraulics Laboratory	0	3	4
CV3016	Computer-aided Structural Analysis	3	0	8
CV3017	Concrete Structures Design	3	0	8
		18	**3**	**52**

Seventh Semester		C	L	U
CV2016	Construction Site Management	3	0	8
CV2028	Road Infrastructure Laboratory	0	3	4
CV2029	Sustainable water use laboratory	0	3	4
CV2030	Sustainable Water Use I	3	0	8
CV3018	Design of Steel Structures	3	0	8
CV3019	Water and Drainage Pipeline Networks	3	0	8
HS2005	Citizenship	3	0	8
		15	**6**	**48**

Eighth Semester		C	L	U
AR3019	Real-estate Projects	3	0	8
CV2031	Sustainable Water Use II	3	0	8
CV3020	Transport Infrastructure	3	0	8
CV3021	Structural Design Capstone Project	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
CV3007	Hydraulic Constructions Works	3	0	8
CV3022	Business Management in the Construction Industry	3	0	8
CV3023	Construction Engineering	3	0	8
CV3024	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Automotive Engineering (IDA)

Graduates from this program are professionals with a solid grounding in engineering, who design, analyze, integrate and test automotive systems and components, considering technical and customer requirements, as well as the product lifecycle, from the generation of concepts to waste and recycling.

They integrate new technologies in the areas of electronics, materials and power sources to adopt them in electric and hybrid vehicles.

IDA

Competencies for Graduates:

- Apply design methodologies to develop and innovate automotive systems and components.
- Use computer technologies and physical infrastructure to design, analyze and test state-of-the-art automotive systems and components.
- Implement innovations in automotive systems and components, backed by virtual modeling, computer-aided engineering and experimental analysis.
- Promote the creation of service, manufacturing or technical consulting companies related to the new automotive industry technologies.

IDA B.S. Automotive Engineering

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
M1007	Introduction to Mechanical Engineering	3	0	4
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
M1003	Statics	3	0	8
MA1017	Mathematics II	3	0	8
TC1017	Problem Solving with Programming	3	0	8
		18	**1**	**48**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H1018	Ethics, Self and Society	3	0	8
M1005	Dynamics	3	0	8
M1006	Computer Drawing	3	0	8
M2023	Mechanics of Materials	3	1	8
MA2009	Mathematics III	3	0	8
Q1004	Chemistry Laboratory	0	3	4
		18	**5**	**52**

Fourth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
M2007	Mechanism Analysis and Simulation	3	1	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2010	Differential Equations	3	0	8
TE1012	Electric Circuits	3	0	8
		18	**1**	**48**

Fifth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
IQ2001	Thermodynamics	3	0	8
M2001	Fundamentals of Combustion and Emissions	3	0	8
M2026	Advanced Methods for Strength of Materials	3	1	8
MA1019	Linear Algebra	3	0	8
MR2005	Mechatronic Instrumentation Laboratory	0	3	4
TE1003	Electronics	3	0	8
		18	**4**	**52**

Sixth Semester		C	L	U
IN2023	Design and Analysis of Experiments	3	0	8
M2021	Fluid Mechanics	3	0	8
M2027	Advanced CAD and Metrology	3	1	8
M2028	Materials Technology	3	0	8
M3028	Internal Combustion Engines	3	0	8
MR2003	Actuators	3	0	8
		18	**1**	**48**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
M2030	Machine Design and Simulation	3	0	8
M2031	Manufacturing Technologies	3	1	8
M3017	Heat Transfer	3	0	8
M3035	Mechanical Vibrations	3	0	8
MR2013	Control Systems	3	1	8
		18	**2**	**48**

Eighth Semester		C	L	U
M2017	Design Methodologies	3	0	8
M3014	Manufacturing Processes Laboratory	0	3	4
M3029	Mold and Die Design	3	0	8
M3030	Vehicle Dynamics	3	0	8
MR3027	Automotive Electronics	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**3**	**52**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
IN2025	Project Evaluation and Management	3	0	8
M3037	Automotive Engineering Project	3	1	8
M3038	Introduction to Professional Development	2	0	2
MR3025	Electric and Hybrid Vehicles	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**1**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Engineering Physics (IFI)

Graduates from this program are professionals with a solid grounding in physics, mathematics and computer tools and an in-depth knowledge of innovative engineering topics used to develop solutions in diverse areas of science and engineering, contributing to renewable energy projects and conducting research activities.

Competencies for Graduates:

- Analyze, model and solve complex science and engineering problems analytically and computationally.
- Develop comprehensive solutions in the areas of energy, materials and optics, based on an indepth knowledge of physics and mathematics, in order to innovate, enhance and find solutions to industrial, scientific research and technological development problems.
- Conduct and manage scientific research and technological evelopment projects, considering their economic and social impact, within a framework of sustainable development, in product and/or process innovation.
- Develop research projects in the area of physics related to the design and/or innovation of products and/or processes individually and/or as a team leader.

IFI B.S. Engineering Physics

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
F1006	Introduction to Physics Engineering	3	0	4
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA1017	Mathematics II	3	0	8
Q1004	Chemistry Laboratory	0	3	4
Q1005	Chemistry of Materials	3	0	8
TC1017	Problem Solving with Programming	3	0	8
		18	**4**	**52**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H1018	Ethics, Self and Society	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2009	Mathematics III	3	0	8
MA2010	Differential Equations	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
F2010	Mathematical Physics I	3	0	8
F3016	Modern Physics	3	0	8
MA1019	Linear Algebra	3	0	8
Q2002	Molecular Thermodynamics	3	0	8
TE1012	Electric Circuits	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
F2003	Analytical Mechanics	3	0	8
F2011	Computational Physics I	3	0	8
F2012	Mathematical Physics II	3	0	8
F3007	Electromagnetic Theory	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
MR2000	Logic Automatisms	3	0	8
TE1014	Electric Circuits and Measurements Laboratory	0	3	4
		18	**3**	**52**

Sixth Semester		C	L	U
F2004	Quantum Mechanics	3	0	8
F2013	Electrodynamics	3	0	8
F3020	Experimental Physics I	3	1	8
F3023	Optics	3	0	8
F3024	Alternative Energy	3	0	8
MR2002	Logic Automatism Laboratory	0	3	4
TE1003	Electronics	3	0	8
		18	**4**	**52**

Seventh Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
F3013	Statistical Mechanics	3	0	8
F3025	Experimental Physics II	3	1	8
F3026	Physical Engineering Project I	3	1	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**2**	**48**

Eighth Semester		C	L	U
F3027	Computational Physics II	3	0	8
F3028	Solid-State Physics	3	0	8
F3029	Physical Engineering Project II	3	1	8
HS2005	Citizenship	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		18	**1**	**48**

Ninth Semester		C	L	U
F3030	Physical Engineering Project III	3	1	8
F3032	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
IN2025	Project Evaluation and Management	3	0	8
Q2016	Advanced Materials and Nanomaterials Laboratory	0	6	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		17	**7**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Innovation and Development Engineering (IID)

Graduates from this program develop comprehensive sustainable solutions in the emerging fields of engineering, such as nanotechnology, the use of alternative energy sources, bioinformatics. Their in-depth preparation in engineering sciences, development of communication, leadership and international vision competencies enable them to work in interdisciplinary teams to manage and develop technological innovation projects that contribute to an increase in productivity and the enhancement of social wellbeing.

Competencies for Graduates:

- Analyze, model and solve complex science and engineering issues.
- Develop comprehensive solutions based on an in-depth knowledge of the diverse engineering disciplines.
- Transfer and apply technology in accordance with the cultural and social context of the community.
- Implement interdisciplinary projects, applying engineering sciences to innovate, enhance and find solutions to problems in the emerging fields of engineering, such as nanotechnology, energy sources and many others.
- Evaluate and manage innovation projects, considering their economic and social impact within a framework of sustainable development.

IID B.S. Innovation and Development Engineering

Edition 2017

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
NN1000	Introduction to Innovation in Engineering	3	0	4
OP1008	Exploration Elective A -I	3	0	8
OP1009	Exploration Elective A -II	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
MA1017	Mathematics II	3	0	8
OP1010	Exploration Elective B -I	3	0	8
OP1011	Exploration Elective B -II	3	0	8
OP1012	Exploration Elective B -III	3	0	8
		18	**1**	**48**

Third Semester		C	L	U
HS2005	Citizenship	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2010	Differential Equations	3	0	8
MR2005	Mechatronic Instrumentation Laboratory	0	3	4
OP1013	Exploration Elective C -I	3	0	8
OP1014	Exploration Elective C -II	3	0	8
VA1000	Complementary Exploration Elective	3	0	8
		18	**3**	**52**

Fourth Semester		C	L	U
M1005	Dynamics	3	0	8
MA2009	Mathematics III	3	0	8
NN1002	Process Innovation and Prototype Design	3	0	8
OP1015	Exploration Elective C -III	3	0	8
OP1016	Exploration Elective C -IV	3	0	8
OP1017	Exploration Elective C -V	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
IN2018	Work Design	3	0	8
IN2022	Optimization Models	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
MR2003	Actuators	3	0	8
NN1003	Innovation and Creativity Workshop	3	0	4
NN2002	Methodologies for Innovation	3	0	8
		21	**0**	**52**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
HS2006	Applied Ethics	3	0	8
IN2024	Decision-making Models	3	0	8
M2007	Mechanism Analysis and Simulation	3	1	8
M2023	Mechanics of Materials	3	1	8
		18	**2**	**48**

Seventh Semester		C	L	U
OP3051	Professional Elective I	3	0	8
OP3052	Professional Elective II	3	0	8
OP3053	Professional Elective III	3	0	8
OP3054	Professional Elective IV	3	0	8
OP3055	Professional Elective V	3	0	8
OP3056	Professional Elective VI	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
OP3061	Complementary Professional Elective I	3	0	8
OP3062	Complementary Professional Elective II	3	0	8
OP3063	Complementary Professional Elective III	3	0	8
OP3064	Complementary Professional Elective IV	3	0	8
OP3065	Complementary Professional Elective V	3	0	8
OP3066	Complementary Professional Elective VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
NN3003	Introduction to Professional Development	2	0	2
VA3101	Elective I	3	0	8
VA3102	Elective II	3	0	8
VA3103	Elective III	3	0	8
VA3104	Elective IV	3	0	8
VA3105	Elective V	3	0	8
VA3106	Elective VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Elective Courses

Exploration Elective A, B and C

		C	L	U
IN1006	Development of an Economic and Industrial Vision	3	0	8
IN1007	Introduction to Adminstration and Evaluation of Projects	3	0	8
M1003	Statics	3	0	8
M1006	Computer Drawing	3	0	8
M1010	Technology and Chemestry of Materials	3	0	8
M2020	Manufacturing Engineering	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MR1001	Industrial Informatics	3	0	8
MR2013	Control Systems	3	1	8
TE1018	Electricity and Electric Circuits	3	0	8

Professional Elective Courses (1)

Monitoring and Advanced Control		C	L	U
MR2007	Computerized Control	3	0	8
MR3002	Modern Control	3	0	8
MR3034	Predictive Control	3	0	8
MR3035	Process Monitoring	3	0	8
MR3036	Advanced Control Project I	3	0	8
MR3037	Advanced Control Project II	3	0	8

Processes Improvement in the Automotive Industry		C	L	U
IN3016	Manufacturing Strategies	3	0	8
IN3055	Project of Processes in the Automotive Industry I	3	0	8
IN3056	Project of Processes in the Automotive Industry II	3	0	8
M3011	Principles of Automotive Engineering	3	0	8
MR3021	Automotive Quality	3	0	8
NI3041	Purchasing and Supply Management	3	0	8

Complementary Concentrations (1)

Aeronautical Manufacturing and Design Concentration Courses (Choose Four)		C	L	U
IN2029	Lean Manufacturing	3	0	8
M2004	Aeronautics Fundamentals	3	0	8
M3004	Advanced Topics of Manufacturing	2	2	8
M3024	Aeronautic Materials	3	0	8
M3029	Mold and Die Design	3	0	8
M3031	Structural Analysis of Airships	3	0	8

Projects		C	L	U
M3032	Aeronautical Project I	3	0	8
M3033	Aeronautical Project II	3	0	8

(1)Non-accredited Professional Concentrations may also be considered as Complementary Professional Concentrations.

B.S. Industrial Engineering with minor in Systems Engineering (IIS)

Graduates from this program are professionals who design enhance and control sustainable processes and systems consisting of people, materials, information, equipment, energy and capital. They increase productivity and the quality of goods and services by manufacturing a product or providing a service in a globalized setting.

IIS

Competencies for Graduates:

- Model, analyze and enhance products, processes and services, applying analytical tools related to industrial engineering and structured pproaches of systems engineering (strategic management, logistics systems, optimization of processes, manufacturing systems and total quality management).
- Design and conduct experiments to develop a product or process.
- Develop business strategies by transforming organizational systems to enhance productivity and competitiveness, considering their impact in a global, economic, environmental and social context.
- Develop innovative solutions that increase the competitive advantages of organizations in a globalized environment.
- Adapt and adopt new enhancement technologies and tools through a process of ongoing professional development.

IIS B.S. Industrial Engineering with minor in Systems Engineering

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
IN1003	Introduction to Industrial Engineering	3	0	4
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H1018	Ethics, Self and Society	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
M1003	Statics	3	0	8
MA1017	Mathematics II	3	0	8
Q1004	Chemistry Laboratory	0	3	4
TC1017	Problem Solving with Programming	3	0	8
		18	**4**	**52**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
IQ1001	Material Balances	3	0	8
M1006	Computer Drawing	3	0	8
M2024	Manufacturing Processes	3	0	8
MA1020	Statistics I	3	0	8
MA2009	Mathematics III	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
IN2017	Facility Design and Materials Management	3	0	8
IN2018	Work Design	3	0	8
IN2019	Metrology Laboratory	0	3	4
M2025	Numerical Methods in Engineering	3	0	8
MA2010	Differential Equations	3	0	8
MA2011	Statistics II	3	0	8
		18	**3**	**52**

Fifth Semester		C	L	U
CF1010	Accounting and Cost Management	3	0	8
EC1010	Economy to Business Creation	3	0	8
IN2004	Statistical Quality Control	3	0	8
IN2020	Inventory Management	3	0	8
IN2021	Production Management	3	0	8
IN2022	Optimization Models	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
IN1002	Systems Engineering Laboratory	0	3	4
IN2023	Design and Analysis of Experiments	3	0	8
IN2024	Decision-making Models	3	0	8
IN3013	Integrated Manufacturing Systems Laboratory	0	3	4
IN3015	Integrated Manufacturing Systems	3	0	8
IN3035	Analysis and Enhancement of Manufacturing Systems	3	0	8
		15	**6**	**48**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
IN2005	System Dynamics	3	0	8
IN2025	Project Evaluation and Management	3	0	8
IN2026	Statistical Engineering	3	0	8
IN2027	Discrete Event Simulation	3	0	8
IN2028	Knowledge Systems in Organizations	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
IN3037	Design and Improvement of Logistic Systems	3	0	8
IN3038	Operational Design and Optimization Laboratory	0	3	4
IN3039	Problem-Solving Methodologies	3	0	8
IN3040	Technological Innovation Systems	3	0	8
IN3041	Project Feasibility	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**3**	**52**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
IN3020	Strategic Planning	3	0	8
IN3043	Quality Management Strategies	3	0	8
IN3044	Industrial and Systems Engineering Project	3	0	8
IN3045	Introduction to Professional Development	2	0	2
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Mechanical Engineering Option A (IMA)

Graduates from this program are professionals who have a solid grasp of mathematics and basic science, specializing in areas related to the design, installation, operation and maintenance of mechanical systems; the optimization of thermal systems; and manufacturing integration and production process management, taking into consideration the correct use of production engineering, as well as financial and sustainable development factors.

Competencies for Graduates:

- Design mechanical systems and select the appropriate materials for their production, and select and develop manufacturing processes to transform raw materials into end products, using cutting-edge software and technology.
- Plan, design and manage production systems using inventory control, logistics, quality control and engineering economics tools to verify the feasibility of projects.
- Use the available material and human resources efficiently to develop and innovate advanced manufacturing products and processes, considering the use of clean technologies and sustainable development.
- Use the fundamental principles of energy and material conservation to design and optimize devices for fluid flow, heat transfer and power generation based on thermal energy, considering the limitations of non-renewable energy sources and global warming.

IMA B.S. Mechanical Engineering Option A

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
M1007	Introduction to Mechanical Engineering	3	0	4
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
M1003	Statics	3	0	8
MA1017	Mathematics II	3	0	8
TC1017	Problem Solving with Programming	3	0	8
		18	**1**	**48**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H1018	Ethics, Self and Society	3	0	8
M1005	Dynamics	3	0	8
M1006	Computer Drawing	3	0	8
M2023	Mechanics of Materials	3	1	8
MA2009	Mathematics III	3	0	8
Q1004	Chemistry Laboratory	0	3	4
		18	**5**	**52**

Fourth Semester		C	L	U
IQ2001	Thermodynamics	3	0	8
M2007	Mechanism Analysis and Simulation	3	1	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2010	Differential Equations	3	0	8
TE1013	Electrical and Electronic Engineering	3	1	8
		18	**2**	**48**

Fifth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
IN2004	Statistical Quality Control	3	0	8
IN2018	Work Design	3	0	8
M2010	Materials Behavior	3	1	8
M2026	Advanced Methods for Strength of Materials	3	1	8
MA1019	Linear Algebra	3	0	8
		18	**2**	**48**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
IN2022	Optimization Models	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
M2014	Materials Applications	3	1	8
M2016	Thermodynamics Engineering	3	0	8
VA2010	Topics I	3	0	8
		18	**1**	**48**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
IN2020	Inventory Management	3	0	8
M2020	Manufacturing Engineering	3	0	8
M2021	Fluid Mechanics	3	0	8
M2030	Machine Design and Simulation	3	0	8
M3014	Manufacturing Processes Laboratory	0	3	4
VA2011	Topics II	3	0	8
		18	**3**	**52**

Eighth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
M2017	Design Methodologies	3	0	8
M3015	Thermofluids Laboratory	0	3	4
M3017	Heat Transfer	3	0	8
M3036	Advanced Materials	3	0	8
MR2013	Control Systems	3	1	8
VA2012	Topics III	3	0	8
		18	**4**	**52**

Ninth Semester		C	L	U
IN2021	Production Management	3	0	8
IN2025	Project Evaluation and Management	3	0	8
M3016	Advanced Manufacturing	3	0	8
M3018	Mechanical Engineering Capstone Project	3	0	8
M3038	Introduction to Professional Development	2	0	2
MR3030	Manufacturing Systems Integration	3	1	8
VA2013	Topics IV	3	0	8
		20	**1**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Mechanical Engineering Option E (IME)

Graduates from this program are professionals who are competent in the design and innovation of electromechanical systems, their automation and control. They integrate the disciplines of mechanics, electricity and electronics to produce, distribute and use energy efficiently, in order to satisfy its growing demand in a sustainable manner for society.

IME

Competencies for Graduates:

- Design electromechanical products, machines, tools and systems to streamline production processes; evaluate and select the most suitable materials for production backed by software and leading-edge technology.
- Develop manufacturing processes with the support of automation and control technologies for products and industrial production processes.
- Evaluate and select the type of energy source and the most appropriate technology, using intelligent distribution systems, according to the particular application.
- Identify and propose solutions for the efficient use of energy, using cogeneration technology that integrates the generation of electricity and the extraction of steam from the process.
- Design devices to exploit fluid flow and heat transfer in the recovery of energy, increasing the efficiency of industrial processes.

IME B.S. Mechanical Engineering Option E

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
M1007	Introduction to Mechanical Engineering	3	0	4
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
M1003	Statics	3	0	8
MA1017	Mathematics II	3	0	8
Q1004	Chemistry Laboratory	0	3	4
TC1017	Problem Solving with Programming	3	0	8
		18	**4**	**52**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H1018	Ethics, Self and Society	3	0	8
M1005	Dynamics	3	0	8
M1006	Computer Drawing	3	0	8
M2023	Mechanics of Materials	3	1	8
MA2009	Mathematics III	3	0	8
		18	**2**	**48**

Fourth Semester		C	L	U
IQ2001	Thermodynamics	3	0	8
M2007	Mechanism Analysis and Simulation	3	1	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2010	Differential Equations	3	0	8
TE1002	Electrical Circuits I	3	0	8
		18	**1**	**48**

Fifth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
M2016	Thermodynamics Engineering	3	0	8
M2026	Advanced Methods for Strength of Materials	3	1	8
M2028	Materials Technology	3	0	8
MA1019	Linear Algebra	3	0	8
TE1014	Electric Circuits and Measurements Laboratory	0	3	4
TE2032	Electrical Circuits II	3	0	8
		18	**4**	**52**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
IN2025	Project Evaluation and Management	3	0	8
M2021	Fluid Mechanics	3	0	8
M3035	Mechanical Vibrations	3	0	8
TE2036	Electromechanical Energy Conversion	3	0	8
TE2039	Electromechanical Energy Conversion Laboratory	0	3	4
TE2043	Power Electronics	3	1	8
		18	**4**	**52**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
M2020	Manufacturing Engineering	3	0	8
M2030	Machine Design and Simulation	3	0	8
M3017	Heat Transfer	3	0	8
MR2004	Control Engineering	3	0	8
VA2010	Topics I	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
M2017	Design Methodologies	3	0	8
M3014	Manufacturing Processes Laboratory	0	3	4
M3015	Thermofluids Laboratory	0	3	4
MR3033	Computerized Control for Electric Machinery	3	0	8
TE3027	Industrial Power Systems	3	1	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		15	**7**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
M3019	Electromechanical Prototype Simulation and Construction	3	1	8
M3038	Introduction to Professional Development	2	0	2
MR2020	Electrical Machines Control Laboratory	0	3	4
MR3028	Control Engineering Laboratory	0	3	4
TE3028	Efficient Use of Energy	3	0	8
TE3066	Intelligent Electrical Networks	3	0	8
VA2013	Topics IV	3	0	8
		17	**7**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Mechatronics Engineering (IMT)

Graduates from this program are professionals with a solid multidisciplinary foundation in mechatronics (consisting of mechanics, electronics, programming and control) who specialize in innovating, designing and manufacturing processes and products that include production lines and automatic systems; intelligent machines and buildings; industrial and general-purpose robots; and medical, automotive and aerospace devices, among others.

Competencies for Graduates:

- Design, innovate, construct and implement products that enhance people's safety and quality of life.
- Design, innovate and implement industrial control and automation systems to increase productivity, quality and efficiency in industrial processes.
- Design and implement mechatronic systems: industrial production lines, robots, numerical control machines, intelligent buildings, medical devices, automotive devices, aerospace devices, in order to improve processes and promote product innovation and enhancement.
- Solve problems, from mechanical and electronic conceptualization and computer-aided control, to implementation.
- Manage and assess mechatronics projects, considering environmental protection and the profession's responsibility toward society.
- Lead multidisciplinary teams.

IMT B.S. Mechatronics Engineering

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
MR1002	Introduction to Mechatronics Engineering	3	0	4
Q1001	Chemistry	3	0	8
TC1017	Problem Solving with Programming	3	0	8
		25	**1**	**52**

Second Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1003	Physics II	3	1	8
HS2000	Humanities and Fine Arts	3	0	8
M1003	Statics	3	0	8
MA1017	Mathematics II	3	0	8
MR1001	Industrial Informatics	3	0	8
Q1004	Chemistry Laboratory	0	3	4
		18	**4**	**52**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
M1005	Dynamics	3	0	8
MA2009	Mathematics III	3	0	8
MA2010	Differential Equations	3	0	8
TE1002	Electrical Circuits I	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
M1006	Computer Drawing	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA3002	Advanced Mathematics	3	0	8
MR2000	Logic Automatisms	3	0	8
MR2002	Logic Automatism Laboratory	0	3	4
TE2032	Electrical Circuits II	3	0	8
		18	**3**	**52**

Fifth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
IQ2001	Thermodynamics	3	0	8
M2023	Mechanics of Materials	3	1	8
MA1006	Probability and Statistics	3	0	8
MR2005	Mechatronic Instrumentation Laboratory	0	3	4
TE1003	Electronics	3	0	8
TE2035	Analysis of Signals and Systems	3	0	8
		18	**4**	**52**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
M2007	Mechanism Analysis and Simulation	3	1	8
M2028	Materials Technology	3	0	8
MR2003	Actuators	3	0	8
MR2004	Control Engineering	3	0	8
TE2033	Applied Electronics	3	0	8
		18	**1**	**48**

Seventh Semester		C	L	U
M2029	Machine Design and Development	3	0	8
M2031	Manufacturing Technologies	3	1	8
MR2007	Computerized Control	3	0	8
MR2009	Industrial Networks	3	0	8
MR2019	Industrial Networks Project	0	3	4
TE2023	Microcontrollers	3	0	8
TE2034	Integral Electronics Laboratory	0	3	4
		15	**7**	**48**

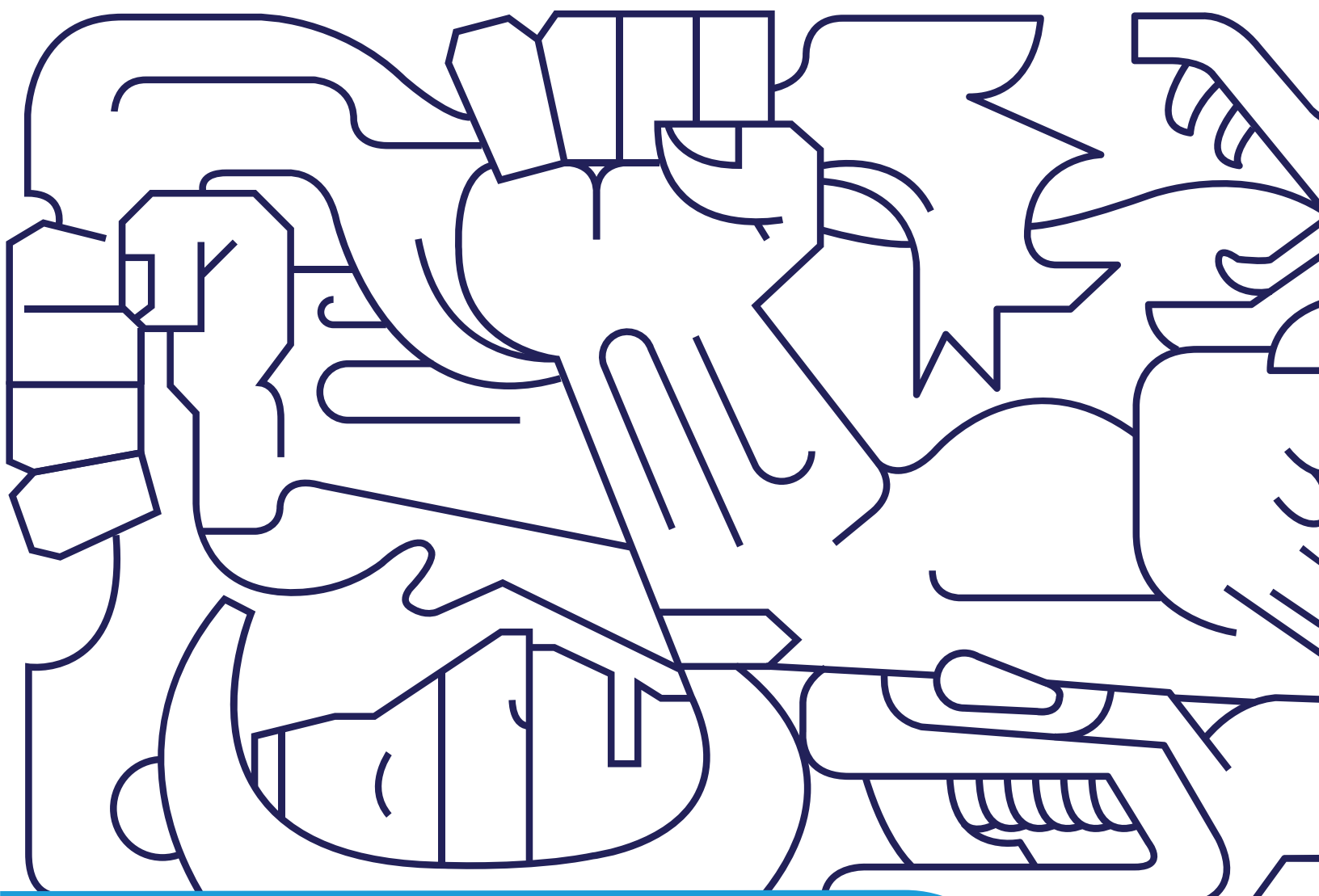
Eighth Semester		C	L	U
HS2005	Citizenship	3	0	8
IN2025	Project Evaluation and Management	3	0	8
MR3009	Mechatronic Design	3	0	8
MR3012	Mechatronics Laboratory	0	3	4
MR3026	Automation of Manufacturing Systems	3	1	8
MR3029	Integral Automatic Control Laboratory	0	3	4
VA2010	Topics I	3	0	8
		15	**7**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
MR3016	Project of Mechatronics Engineering	3	0	8
MR3031	Industrial Robotics	3	1	8
MR3032	Introduction to Professional Development	2	0	2
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**1**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)



Undergraduate Degree Profiles
and Curricula

School of Engineering and Sciences

Information Technologies and Electronics

B.S. Business Informatics (INT)

Graduates from this program specialize in solving diverse organizational issues using process analysis, optimization and innovation methodologies.

They enjoy a solid preparation in information technologies and systematic thinking, which translates into an increase in organizations' competitiveness.

Competencies for Graduates:

- Use critical, systemic thinking to analyze, model and enhance organizational processes, generating comprehensive solutions with the effective use of information technologies.
- Manage and lead technology change and integration projects in organizations, promoting the efficient use of information and collaboration tools.
- Assess the impact of technological solutions, using criteria such as customer satisfaction, costs, response time and risks.
- Design the mechanisms for storing, distributing and visualizing information that favor decision-making processes.

INT B.S. Business Informatics

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
DS1003	Natural Sciences and Sustainable Development	3	0	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1015	Mathematics I	3	0	8
TC1014	Programming Fundamentals	3	0	8
TI1013	Introduction to Business Informatics	3	0	4
		25	**0**	**52**

Second Semester		C	L	U
F1002	Physics I	3	1	8
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MA1017	Mathematics II	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
TC2016	Object-Oriented Programming	3	0	8
		18	**1**	**48**

Third Semester		C	L	U
CF1010	Accounting and Cost Management	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2009	Mathematics III	3	0	8
TC1016	Computer Organization	3	1	8
TC1019	Introduction to Software Engineering	3	0	8
TI1010	Creativity and Innovation for Problem Solving	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
FZ1005	Financial Mathematics	3	0	8
MA2010	Differential Equations	3	0	8
TC1020	Databases	3	0	8
TC2018	Introduction to Networks	3	1	8
TC2019	Numerical Methods in Engineering	3	0	8
TI1011	Selling Chain Management	3	0	8
		18	**1**	**48**

Fifth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
IN2004	Statistical Quality Control	3	0	8
IN2022	Optimization Models	3	0	8
TC2009	Use and Management of Operating Systems	3	0	8
TI2002	Business Process Management	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
FZ1006	Personal and Business Finance	3	0	8
IN1002	Systems Engineering Laboratory	0	3	4
IN2020	Inventory Management	3	0	8
IN2023	Design and Analysis of Experiments	3	0	8
TI2010	Capstone Project I	3	0	8
TI2011	Project Evaluation and Management	3	0	8
TI3030	Data Management	3	0	8
		18	**3**	**52**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
IN2005	System Dynamics	3	0	8
IN2021	Production Management	3	0	8
TC2007	Quantitative Methods and Simulation	3	0	8
TI3031	Strategic IT management	3	0	8
TI3032	Enterprise Information Systems	3	1	8
		18	**1**	**48**

Eighth Semester		C	L	U
AD3002	Management Consulting	3	0	8
IN3039	Problem-Solving Methodologies	3	0	8
TI3028	Change Management	3	0	8
TI3033	IT Governability	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
TC3011	Management of IT Services	3	0	8
TI3029	Capstone Project II	3	0	8
TI3034	Business Intelligence	3	1	8
TI3035	Introduction to Professional Development	2	0	2
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**1**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Computer Science and Technology (ISC)

Graduates from this program are highly specialized in the development of software to improve the quality of life of society, support organizational competitiveness and the sustainable development of the country. Their training in the areas of software engineering and computer science allows them to create all types of computer applications, ranging from personal-and daily-use to specialized scientific, technical, engineering and business applications.

Competencies for Graduates:

- Use software engineering to develop innovative applications to the highest quality standards, employing leading-edge technology to resolve science, industry, education and entertainment issues, with an international vision of society and its cultural requirements.
- Manage technology projects, understanding and solving the problems of diverse institutions and organizations, in a creative, innovative manner, and using resources responsibly.
- Collaborate on the design and administration of technological and communications infrastructure, applying the appropriate security policies to guarantee organizational competitiveness.
- Analyze the local and global impact of information technologies on individuals, organizations and society in order to guide their services with a sense of responsibility and ethics when evaluating ethical dilemmas related to their personal lives, profession and environment.

ISC B.S. Computer Science and Technology

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
MA1015	Mathematics I	3	0	8
TC1003	Discrete Mathematics	3	0	8
TC1014	Programming Fundamentals	3	0	8
TC1023	Introduction to Computer Systems Engineering	3	0	4
		23	**1**	**52**

Second Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1017	Mathematics II	3	0	8
TC1015	Introduction to Interactive Design	3	0	8
TC1016	Computer Organization	3	1	8
TC2016	Object-Oriented Programming	3	0	8
		20	**1**	**48**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H1018	Ethics, Self and Society	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2009	Mathematics III	3	0	8
TC1018	Data Structures	3	0	8
TC1019	Introduction to Software Engineering	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
TC1020	Databases	3	0	8
TC1021	Videogame Development Project	3	0	8
TC2017	Analysis and Design of Algorithms	3	0	8
TC2018	Introduction to Networks	3	1	8
TC2019	Numerical Methods in Engineering	3	0	8
		18	**1**	**48**

Fifth Semester		C	L	U
HS2000	Humanities and Fine Arts	3	0	8
MA1019	Linear Algebra	3	0	8
TC2004	Analysis and Modeling of Software Systems	3	0	8
TC2008	Operating Systems	3	1	8
TC2020	Computational Mathematics	3	0	8
TC2022	Network Interconnection	3	1	8
		18	**2**	**48**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
TC2024	Mobile Application Development Projects	3	0	8
TC2025	Advanced Programming	3	0	8
TC3041	Advanced Database Systems	3	0	8
TC3045	Software Quality and Testing	3	3	12
TI2011	Project Evaluation and Management	3	0	8
		18	**3**	**52**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
TC2006	Programming Languages	3	0	8
TC2026	Web Applications Development	3	1	8
TC2027	Computer and Information Security	3	1	8
TC3002	Management of Software Engineering Projects	3	0	8
VA2010	Topics I	3	0	8
		18	**2**	**48**

Eighth Semester		C	L	U
TC2007	Quantitative Methods and Simulation	3	0	8
TC3022	Computer Graphics	3	0	8
TC3048	Compiler Design	3	0	8
TC3049	Software Design and Architecture	3	0	8
TC3052	Web Application Development Laboratory	0	3	4
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		18	**3**	**52**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
TC2011	Intelligent Systems	3	0	8
TC3054	Business Solution Development Capstone Project	3	0	8
TI3035	Introduction to Professional Development	2	0	2
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Digital Systems and Robotics Engineering (ISD)

Graduates from this program are professionals with a solid background in the areas of digital design and computer and electronics engineering, highlighting their application in robotics. They can generate technological solutions for individuals and organizations through electronic and robotics devices, as well as the corresponding embedded software systems.

ISD

Competencies for Graduates:

- Design, construct and maintain innovative electronic devices and their corresponding embedded software systems, considering performance and sustainability requirements, such as speed, reliability, costs and energy efficiency, among others.
- Work in an interdisciplinary manner in the design and construction of robots for a specific purpose in industrial and service applications, in particular in the areas of medicine, automation, domestic appliances and the entertainment industry.
- Design, program and maintain software systems to control devices and processes in applications that require intelligence.
- Work in an interdisciplinary manner on the design and execution of experiments and projects that help to demonstrate and understand the principles and laws of natural science and electronics, in order to comprehend the behavior of electronic devices and their impact on society.

ISD B.S. Digital Systems and Robotics Engineering

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
TC1014	Programming Fundamentals	3	0	8
TE1015	Introduction to Digital Systems and Robotics Engineering	3	0	4
		23	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H1040	Analysis and Verbal Expression	5	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA1017	Mathematics II	3	0	8
Q1004	Chemistry Laboratory	0	3	4
TC2016	Object-Oriented Programming	3	0	8
TE1010	Digital Systems	3	1	8
		20	**5**	**52**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H1018	Ethics, Self and Society	3	0	8
MA2009	Mathematics III	3	0	8
TC1018	Data Structures	3	0	8
TE1002	Electrical Circuits I	3	0	8
TE1011	Digital Systems Laboratory	0	3	4
TE2030	Advanced Digital Systems	3	0	8
		18	**4**	**52**

Fourth Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2010	Differential Equations	3	0	8
TE1003	Electronics	3	0	8
TE1014	Electric Circuits and Measurements Laboratory	0	3	4
TE2032	Electrical Circuits II	3	0	8
		18	**3**	**52**

Fifth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
MA3002	Advanced Mathematics	3	0	8
TC2018	Introduction to Networks	3	1	8
TE2023	Microcontrollers	3	0	8
TE2024	Microcontroller Laboratory	0	3	4
TE2033	Applied Electronics	3	0	8
TE2034	Integral Electronics Laboratory	0	3	4
		15	**7**	**48**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
MR2018	Sensors and Actuators	3	0	8
TC2008	Operating Systems	3	1	8
TC2022	Network Interconnection	3	1	8
TE2031	Computer Architecture	3	1	8
TE2035	Analysis of Signals and Systems	3	0	8
		18	**3**	**48**

Seventh Semester		C	L	U
IN2025	Project Evaluation and Management	3	0	8
MR2004	Control Engineering	3	0	8
TC2028	Languages and Translators	3	0	8
TE2038	Computer Equipment Interfaces	3	1	8
TE2041	Applied Robotic	3	0	8
VA2010	Topics I	3	0	8
		18	**1**	**48**

Eighth Semester		C	L	U
HS2005	Citizenship	3	0	8
MR2007	Computerized Control	3	0	8
MR3028	Control Engineering Laboratory	0	3	4
TC3050	Robot Vision	3	0	8
TE3059	Embedded Systems	3	0	8
TE3060	Embedded Systems Laboratory	0	3	4
VA2011	Topics II	3	0	8
		15	**6**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
TC2026	Web Applications Development	3	1	8
TE3045	Robotics Project	3	0	8
TE3061	Multiprocessors	3	0	8
TE3065	Introduction to Professional Development	2	0	2
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**1**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Computer Science and Technology (ITC)

Graduates from this program are highly specialized in the development of software to improve the quality of life of society, support organizational competitiveness and the sustainable development of the country. Their training in the areas of software engineering and computer science allows them to create all types of computer applications, ranging from personal-and daily-use to specialized scientific, technical, engineering and business applications.

Competencies for Graduates:

- Use software engineering to develop innovative applications to the highest quality standards, employing leading-edge technology to resolve science, industry, education and entertainment issues, with an international vision of society and its cultural requirements.
- Manage technology projects, understanding and solving the problems of diverse institutions and organizations, in a creative, innovative manner, and using resources responsibly.
- Collaborate on the design and administration of technological and communications infrastructure, applying the appropriate security policies to guarantee organizational competitiveness.
- Analyze the local and global impact of information technologies on individuals, organizations and society in order to guide their services with a sense of responsibility and ethics when evaluating ethical dilemmas related to their personal lives, profession and environment.

ITC B.S. Computer Science and Technology

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
MA1015	Mathematics I	3	0	8
TC1003	Discrete Mathematics	3	0	8
TC1014	Programming Fundamentals	3	0	8
TC1023	Introduction to Computer Systems Engineering	3	0	4
		23	**1**	**52**

Second Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1017	Mathematics II	3	0	8
TC1015	Introduction to Interactive Design	3	0	8
TC1016	Computer Organization	3	1	8
TC2016	Object-Oriented Programming	3	0	8
		20	**1**	**48**

Third Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H1018	Ethics, Self and Society	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2009	Mathematics III	3	0	8
TC1018	Data Structures	3	0	8
TC1019	Introduction to Software Engineering	3	0	8
		18	**1**	**48**

Fourth Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
TC1020	Databases	3	0	8
TC1021	Videogame Development Project	3	0	8
TC2017	Analysis and Design of Algorithms	3	0	8
TC2018	Introduction to Networks	3	1	8
TC2019	Numerical Methods in Engineering	3	0	8
		18	**1**	**48**

Fifth Semester		C	L	U
HS2000	Humanities and Fine Arts	3	0	8
MA1019	Linear Algebra	3	0	8
TC2004	Analysis and Modeling of Software Systems	3	0	8
TC2008	Operating Systems	3	1	8
TC2020	Computational Mathematics	3	0	8
TC2022	Network Interconnection	3	1	8
		18	**2**	**48**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
TC2024	Mobile Application Development Projects	3	0	8
TC2025	Advanced Programming	3	0	8
TC3041	Advanced Database Systems	3	0	8
TC3045	Software Quality and Testing	3	3	12
TI2011	Project Evaluation and Management	3	0	8
		18	**3**	**52**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
TC2006	Programming Languages	3	0	8
TC2026	Web Applications Development	3	1	8
TC2027	Computer and Information Security	3	1	8
TC3002	Management of Software Engineering Projects	3	0	8
VA2010	Topics I	3	0	8
		18	**2**	**48**

Eighth Semester		C	L	U
TC2007	Quantitative Methods and Simulation	3	0	8
TC3022	Computer Graphics	3	0	8
TC3048	Compiler Design	3	0	8
TC3049	Software Design and Architecture	3	0	8
TC3052	Web Application Development Laboratory	0	3	4
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		18	**3**	**52**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
TC2011	Intelligent Systems	3	0	8
TC3054	Business Solution Development Capstone Project	3	0	8
TI3035	Introduction to Professional Development	2	0	2
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Electronic and Computer Engineering (ITE)

Graduates from this program are highly specialized in engineering sciences. They integrate electronics, computation and the fundamental aspects of communications systems, microelectronics, control and instrumentation to develop innovative tautologies that provide human beings with a better quality of life, and help to increase organizational competitiveness while ensuring environmental responsibility and commitment.

Competencias de egreso:

- Design electronic and computer systems based on digital and analogue systems, microprocessors, programmable devices and integrated circuits, with optimal characteristics regarding speed, reliability and energy efficiency.
- Implement electronic and computer systems using state-of-the-art computer tools and languages, focused on embedded and reconfigurable systems for applications in the diverse fields of electronics.
- Verify and validate the electronic and computer systems developed, using standardized testing methodologies.
- Identify and develop business opportunities in electronics-related areas of application.
- Work in an interdisciplinary manner on the design, evaluation, construction and integration of innovative electronic systems for applications in healthcare, modern communications systems, control and instrumentation of processes and entertainment, among others, to solve industry-and society-specific issues.

ITE B.S. Electronic and Computer Engineering

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
TC1014	Programming Fundamentals	3	0	8
TE1017	Introduction to Electronic and Computer Engineering	3	0	4
		23	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H1040	Analysis and Verbal Expression	5	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA1017	Mathematics II	3	0	8
Q1004	Chemistry Laboratory	0	3	4
TC2016	Object-Oriented Programming	3	0	8
TE1010	Digital Systems	3	1	8
		20	**5**	**52**

Third Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
MA2009	Mathematics III	3	0	8
MA2010	Differential Equations	3	0	8
TE1002	Electrical Circuits I	3	0	8
TE1011	Digital Systems Laboratory	0	3	4
TE2030	Advanced Digital Systems	3	0	8
		15	**3**	**44**

Fourth Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
TE1014	Electric Circuits and Measurements Laboratory	0	3	4
TE2005	Electromagnetic Fields	3	0	8
TE2031	Computer Architecture	3	1	8
TE2032	Electrical Circuits II	3	0	8
		18	**4**	**52**

Fifth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
F2006	Optics and Modern Physics	3	0	8
MA3002	Advanced Mathematics	3	0	8
TC1018	Data Structures	3	0	8
TC2018	Introduction to Networks	3	1	8
TE1003	Electronics	3	0	8
		18	**1**	**48**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
TC2022	Network Interconnection	3	1	8
TE2023	Microcontrollers	3	0	8
TE2024	Microcontroller Laboratory	0	3	4
TE2033	Applied Electronics	3	0	8
TE2034	Integral Electronics Laboratory	0	3	4
TE2035	Analysis of Signals and Systems	3	0	8
		15	**7**	**48**

Seventh Semester		C	L	U
MR2004	Control Engineering	3	0	8
TC2008	Operating Systems	3	1	8
TE2019	Digital Signal Processing Laboratory	0	3	4
TE2038	Computer Equipment Interfaces	3	1	8
TE2040	Digital Signal Processing	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**5**	**52**

Eighth Semester		C	L	U
HS2005	Citizenship	3	0	8
MR3028	Control Engineering Laboratory	0	3	4
TE3032	Digital Communications	3	0	8
TE3059	Embedded Systems	3	0	8
TE3060	Embedded Systems Laboratory	0	3	4
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		15	**6**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
IN2025	Project Evaluation and Management	3	0	8
TE3038	Communications Systems Laboratory	0	3	4
TE3062	Integral Electronic Technologies Project	3	0	8
TE3064	Introduction to Professional Development	2	0	2
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		17	**3**	**46**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Information Technologies (ITI)

Graduates from this program are specialist who have an integrating vision of the fields of Information, Computation and Electronics and develop multidisciplinary technology projects that provide a solution for specific needs that drive the digital transformation of companies.These professionals design and build digital systems, develop and integrate information systems and computer services.

Competencias de egreso:

- Introduce technological solutions that integrate applications, communication tools and electronic devices that support organizational strategies.
- Propose and implement effective solutions to real problems in the area of information technologies and electronics, identifying, analyzing and evaluating the diverse ethical and ecological implications of such solutions.
- Execute innovation and entrepreneurial projects in which the use of information technologies and electronics is key to their success.
- Manage their personal development by updating their skills and knowledge by pursuing higher studies, professional certifications and/or congresses that will provide the capacity and flexibility to adapt to environmental changes.
- Lead work teams effectively, valuing diversity and multidisciplinary activities.

ITI B.S. Information Technologies

Edition 2017

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
MA1015	Mathematics I	3	0	8
OP1008	Exploration Elective A -I	3	0	8
OP1009	Exploration Elective A -II	3	0	8
TC1014	Programming Fundamentals	3	0	8
TC1026	Introduction to Information Technologies	3	0	4
		23	**1**	**52**

Second Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1017	Mathematics II	3	0	8
OP1010	Exploration Elective B -I	3	0	8
OP1011	Exploration Elective B -II	3	0	8
TC2016	Object-Oriented Programming	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
HS2000	Humanities and Fine Arts	3	0	8
MA1006	Probability and Statistics	3	0	8
MA2009	Mathematics III	3	0	8
OP1013	Exploration Elective C -I	3	0	8
OP1014	Exploration Elective C -II	3	0	8
VA1000	Complementary Exploration Elective	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
F1005	Electricity and Magnetism	3	1	8
H2001	Verbal Expression in the Workplace	3	0	8
MA2010	Differential Equations	3	0	8
OP1015	Exploration Elective C -III	3	0	8
OP1016	Exploration Elective C -IV	3	0	8
TE1011	Digital Systems Laboratory	0	3	4
TE2030	Advanced Digital Systems	3	0	8
		18	**4**	**52**

Fifth Semester		C	L	U
CF1010	Accounting and Cost Management	3	0	8
HS2005	Citizenship	3	0	8
OP1017	Exploration Elective C -V	3	0	8
TC1020	Databases	3	0	8
TC2008	Operating Systems	3	1	8
TE1003	Electronics	3	0	8
TE1014	Electric Circuits and Measurements Laboratory	0	3	4
		18	**4**	**52**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
HS2006	Applied Ethics	3	0	8
TC2017	Analysis and Design of Algorithms	3	0	8
TE2023	Microcontrollers	3	0	8
TI2002	Business Process Management	3	0	8
TI3020	Economics Engineering	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
OP3051	Professional Elective I	3	0	8
OP3052	Professional Elective II	3	0	8
OP3053	Professional Elective III	3	0	8
OP3054	Professional Elective IV	3	0	8
OP3055	Professional Elective V	3	0	8
OP3056	Professional Elective VI	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
OP3061	Complementary Professional Elective I	3	0	8
OP3062	Complementary Professional Elective II	3	0	8
OP3063	Complementary Professional Elective III	3	0	8
OP3064	Complementary Professional Elective IV	3	0	8
OP3065	Complementary Professional Elective V	3	0	8
OP3066	Complementary Professional Elective VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
TI3035	Introduction to Professional Development	2	0	2
VA3101	Elective I	3	0	8
VA3102	Elective II	3	0	8
VA3103	Elective III	3	0	8
VA3104	Elective IV	3	0	8
VA3105	Elective V	3	0	8
VA3106	Elective VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Elective Courses

Exploration Elective A, B and C

		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
TC1016	Computer Organization	3	1	8
TC1018	Data Structures	3	0	8
TC1019	Introduction to Software Engineering	3	0	8
TC2018	Introduction to Networks	3	1	8
TC2019	Numerical Methods in Engineering	3	0	8
TE1002	Electrical Circuits I	3	0	8
TE1010	Digital Systems	3	1	8
TI2011	Project Evaluation and Management	3	0	8

Professional Elective Courses (1)

Information Technology Management Business Intelligence		C	L	U
TC2027	Computer and Information Security	3	1	8
TI3002	Information Systems Auditing	3	0	8
TI3024	Information Technology Service Management	3	0	8
TI3028	Change Management	3	0	8
TI3031	Strategic IT management	3	0	8
TI3033	IT Governability	3	0	8

Embedded Systems		C	L	U
TC2025	Advanced Programming	3	0	8
TE2024	Microcontroller Laboratory	0	3	4
TE2031	Computer Architecture	3	1	8
TE2038	Computer Equipment Interfaces	3	1	8
TE3059	Embedded Systems	3	0	8
TE3060	Embedded Systems Laboratory	0	3	4
TE3061	Multiprocessors	3	0	8

Complementary Professional Elective Courses (1)

Business Intelligence		C	L	U
TC3063	Data Science and Big Data Analytics	3	0	8
TI2000	Information Technology Management	3	0	8
TI2012	Data Cleaning and Conforming for Business Analysis	3	0	8
TI3025	Business Intelligence Management	3	2	8
TI3026	Business Intelligence Project	3	0	8
TI3030	Data Management	3	0	8

(1) Non-accredited Professional Concentrations may also be considered as Complementary Professional Concentrations.

B.S. Telecommunications and Electronic Systems (ITS)

Graduates from this program are professionals who analyze, define and develop products, processes and devices with microelectronic components, which offer innovative solutions in the areas of telecommunications, such as data networks, personal and multimedia communication, audio, video, network infrastructure digital data processing.

Competencies for Graduates:

- Create cutting-edge electronic applications, such as cell phones, portable music and video players, high-definition television, acoustic systems and digital products (game consoles, computers, controls and PDAs, among others).
- Process video images, audio or data for biometrics, tracking and locating applications.
- Transform data into digital formats, such as MP3, MP4, AVI, Blu-Ray and DLDVD, among others, to facilitate their remote transmission, storage and protection.
- Design and construct personal, corporate, public and industrial networks for voice, data and video transmission using technologies such as WiFi, Bluetooth, WiMAX, 4G, GPS and satellite, among others.
- Design, construct and maintain innovative electronic systems that include microelectronic devices.
- Analyze, design and implement telecommunications infrastructure –wired or wireless remote communication– and electronics infrastructure, using computer tools and instrumentation equipment.

ITS B.S. Telecommunications and Electronic Systems

Edition 2011

Remedial Semester		C	L	U
F1001	Introduction to Physics	3	0	8
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		42	**0**	**80**

First Semester		C	L	U
DS1003	Natural Sciences and Sustainable Development	3	0	8
F1002	Physics I	3	1	8
H1016	Foreign Language	5	0	8
MA1015	Mathematics I	3	0	8
Q1001	Chemistry	3	0	8
TC1014	Programming Fundamentals	3	0	8
TE1016	Introduction to Telecommunications Engineering	3	0	4
		23	**1**	**52**

Second Semester		C	L	U
F1003	Physics II	3	1	8
H1040	Analysis and Verbal Expression	5	0	8
MA1017	Mathematics II	3	0	8
Q1004	Chemistry Laboratory	0	3	4
TC2016	Object-Oriented Programming	3	0	8
TE1002	Electrical Circuits I	3	0	8
TE1010	Digital Systems	3	1	8
		20	**5**	**52**

Third Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MA2009	Mathematics III	3	0	8
MA2010	Differential Equations	3	0	8
TE1014	Electric Circuits and Measurements Laboratory	0	3	4
TE2030	Advanced Digital Systems	3	0	8
TE2032	Electrical Circuits II	3	0	8
		18	**3**	**52**

Fourth Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
M2025	Numerical Methods in Engineering	3	0	8
MA1006	Probability and Statistics	3	0	8
MA3002	Advanced Mathematics	3	0	8
TC2018	Introduction to Networks	3	1	8
TE1003	Electronics	3	0	8
TE1011	Digital Systems Laboratory	0	3	4
		18	**4**	**52**

Fifth Semester		C	L	U
EC1010	Economy to Business Creation	3	0	8
TE2005	Electromagnetic Fields	3	0	8
TE2023	Microcontrollers	3	0	8
TE2024	Microcontroller Laboratory	0	3	4
TE2033	Applied Electronics	3	0	8
TE2034	Integral Electronics Laboratory	0	3	4
TE2035	Analysis of Signals and Systems	3	0	8
		15	**6**	**48**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
F2006	Optics and Modern Physics	3	0	8
MA2007	Random Processes	3	0	8
TE2019	Digital Signal Processing Laboratory	0	3	4
TE2037	Semiconductors	3	0	8
TE2040	Digital Signal Processing	3	0	8
TE3007	Transmission Media	3	0	8
		18	**3**	**52**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
TC2022	Network Interconnection	3	1	8
TE3032	Digital Communications	3	0	8
TE3034	Microelectronics	3	0	8
TE3054	Engineering Project Laboratory I	0	3	4
TE3055	Embedded Systems for Telecommunications Laboratory	0	3	4
TE3056	Embedded Systems for Telecommunications	3	0	8
		15	**7**	**48**

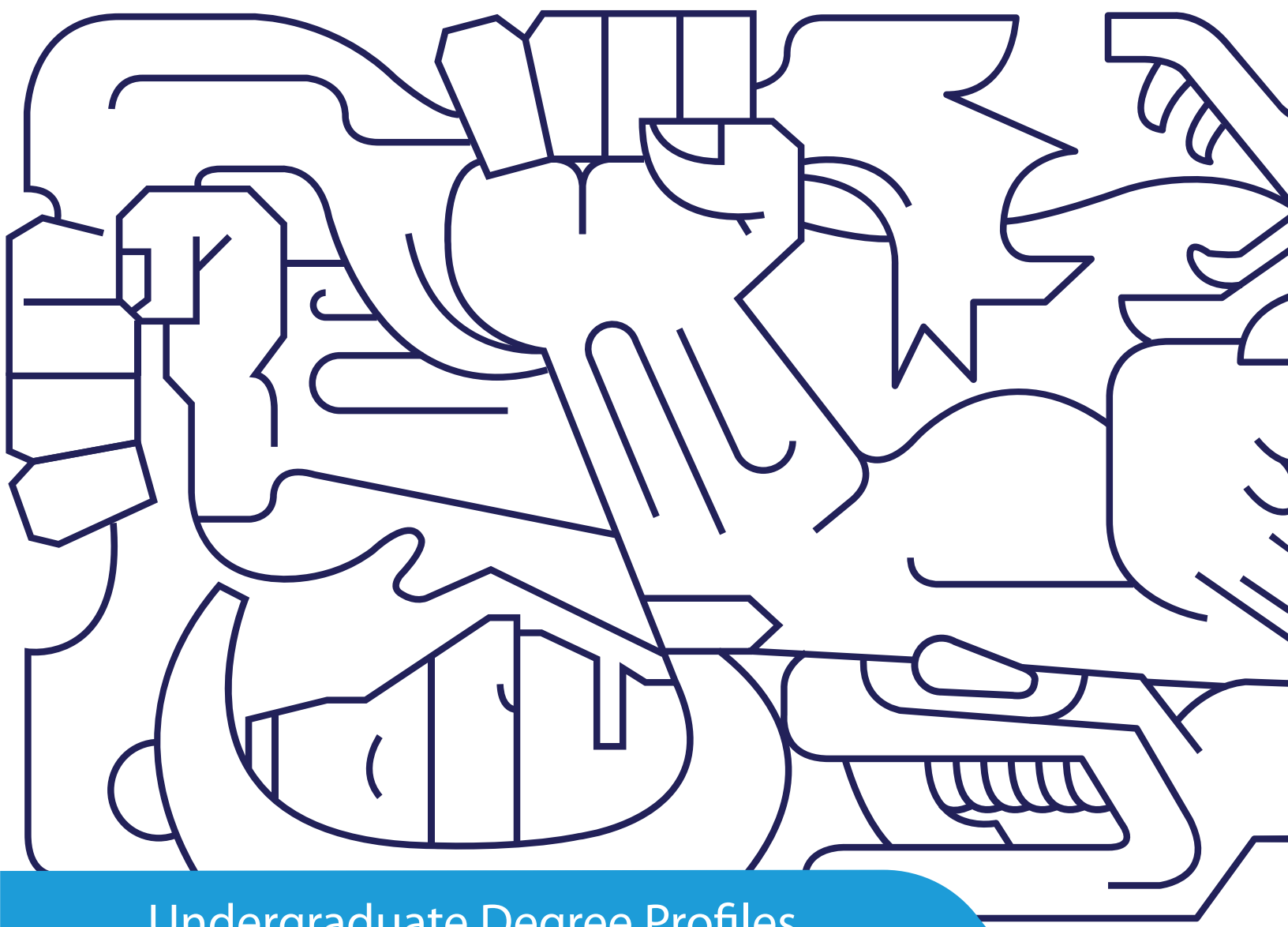
Eighth Semester		C	L	U
MR2004	Control Engineering	3	0	8
TE3036	Wireless Communications	3	0	8
TE3038	Communications Systems Laboratory	0	3	4
TE3057	Wireless Communications Laboratory	0	3	4
TE3058	Engineering Project Laboratory II	0	3	4
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		12	**9**	**44**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
IN2025	Project Evaluation and Management	3	0	8
TE3062	Integral Electronic Technologies Project	3	0	8
TE3063	Telecommunication Networks	3	0	8
TE3064	Introduction to Professional Development	2	0	2
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)



Undergraduate Degree Profiles
and Curricula

School of Medicine and Health Sciences

B.A. in Biosciences (LBC)

Graduates from this program are professionals committed to innovation and improvement of health care process and outcomes, applying specialized skills related to basic, clinical and epidemiological research.

Competencies for Graduates:

- Deep understanding of the functioning of the human body and its related health-disease processes.
- Collaborate in biomedical research and innovation projects, oriented to the development of new diagnostic strategies, treatments, biomedical devices and drugs.
- Manage biomedical databases and resources required for research and innovation projects and their implementation.
- Collaborate in multidisciplinary teams to effectively communicate advances of projects or research results, in oral and written forms, in both Spanish and English languages.
- Identify, analyze and assessment of personal, professional and environmental ethical dilemmas.

LBC B.A. in Biosciences

Edition 2017

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
TC1001	Introduction to Computer Science	3	0	8
		33	**0**	**56**

First Semester		C	L	U
H1040	Analysis and Verbal Expression	5	0	8
HS2000	Humanities and Fine Arts	3	0	8
MD1031	Cell Biology	3	0	8
MD1032	Historical Foundations in Health Sciences	3	0	8
MD1051	Introduction to Health Field	3	0	4
OP1008	Exploration Elective A -I	3	0	8
OP1009	Exploration Elective A -II	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
H1016	Foreign Language	5	0	8
MD1015	Biostatistics	3	0	8
MD1036	Basic Morphophysiology	5	0	12
OP1010	Exploration Elective B -I	3	0	8
OP1011	Exploration Elective B -II	3	0	8
OP1012	Exploration Elective B -III	3	0	8
		22	**0**	**52**

Third Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MD1041	Biocontrol Systems	5	0	12
MD1042	Community I	2	0	4
OP1013	Exploration Elective C -I	3	0	8
OP1014	Exploration Elective C -II	3	0	8
		19	**0**	**48**

Fourth Semester		C	L	U
MD1033	Histology	2	2	8
MD1038	Morphofunctional Laboratory	2	2	8
MD1043	Defense and Hemostasis	3	0	8
MD1045	Vital Processes	5	0	12
MD1046	History Taking and Clinical Examination I	2	2	8
MD1048	Community II	2	0	4
SU1003	Principles of Health Management	2	0	4
		18	**6**	**52**

Fifth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
MB2037	Morphological and Functional Pathology I	2	2	8
MB2038	Pathophysiology	5	0	12
MB2039	History Taking and Clinical Examination II	2	2	8
MD1037	Healthy Environment and Self-care	2	0	4
MD1040	Musculoskeletal and Digestive Systems	3	0	8
		17	**4**	**48**

Sixth Semester		C	L	U
HS2005	Citizenship	3	0	8
HS2006	Applied Ethics	3	0	8
MB2036	Pathophysiology of the Endocrine System	3	0	8
MB2041	Pathophysiology of the Digestive System and Nutrition	3	0	8
MB2044	Morphological and Functional Pathology II	2	2	8
MB2052	Global Health and Preventive Medicine	2	0	4
MD1044	General Pharmacology and Toxicology	3	0	8
		19	**2**	**52**

Seventh Semester		C	L	U
OP3051	Professional Elective I	3	0	8
OP3052	Professional Elective II	3	0	8
OP3053	Professional Elective III	3	0	8
OP3054	Professional Elective IV	3	0	8
OP3055	Professional Elective V	3	0	8
OP3056	Professional Elective VI	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
OP3061	Complementary Professional Elective I	3	0	8
OP3062	Complementary Professional Elective II	3	0	8
OP3063	Complementary Professional Elective III	3	0	8
OP3064	Complementary Professional Elective IV	3	0	8
OP3065	Complementary Professional Elective V	3	0	8
OP3066	Complementary Professional Elective VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
MB3001	Introduction to Professional Development	2	0	2
VA3101	Elective I	3	0	8
VA3102	Elective II	3	0	8
VA3103	Elective III	3	0	8
VA3104	Elective IV	3	0	8
VA3105	Elective V	3	0	8
VA3106	Elective VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Elective Courses

Exploration Elective A, B and C

		C	L	U
BI1002	Introduction to Biomedical Technology	3	0	8
MD1035	Genetics for Health Sciences	3	0	8
MB2045	Health Psychology	3	0	8
NU1004	Nutritional Biochemistry	3	0	8
NU1005	Metabolism of nutrition	3	0	8
OD1011	Medical and Stomatological Microbiology	3	0	8
OD1012	Medical and Stomatological Embryology	3	0	8

Professional Elective Courses (1)

Innovation		C	L	U
AD3009	Strategic Innovation Management	3	0	8
AD3010	Business Model Innovation	3	0	8
AD3011	Innovation Project I	3	0	8
AD3012	Innovation Project II	3	0	8
MT3016	Product and Service Innovation	3	0	8
MT3017	Innovation in Dynamic Business Environments	3	0	8
Consulting and Management Pharmaceutical		**C**	**L**	**U**
AD2004	Management Pharmaceutical Innovation	3	0	8
AD2006	Pharmaceutical Management	3	0	8
AD3006	Consulting and Management Pharmaceutical Project I	3	0	8
AD3007	Consulting and Management Pharmaceutical Project II	3	0	8
EC2020	Pharmaceutical Economics	3	0	8
MT2017	Pharmaceutical Marketing	3	0	8

Complementary Professional Elective Courses (1)

Business Creation		C	L	U
DE2002	Innovation and Designing a Product or Service	3	0	8
DE3013	Pre-Incubation and Business Feasibility	1	4	8
DE3014	Incubation and Business Models	1	4	8
DE3016	Incubation and Financing of New Ventures	1	4	8
DE3017	Strategies for Market Positioning	3	0	8
DE3018	Incubation and Strategic Control of Cash Flow	1	4	8
Healthcare Engineering		**C**	**L**	**U**
IN2031	Introduction to Healthcare Systems in Mexico	3	0	8
IN3050	Modeling, Simulation and Optimization of Healthcare Systems	3	0	8
IN3051	Healthcare Systems Operations Management	3	0	8
IN3052	Quality and Safety in Healthcare Systems	3	0	8
IN3053	Healthcare Engineering Project I	3	0	8
IN3054	Healthcare Engineering Project II	3	0	8

(1) Non-accredited Professional Concentrations may also be considered as Complementary Professional Concentrations.

B.A. Nutrition and Wellness (LNB)

Graduates from this program are professionals who participate in the prevention, diagnosis and treatment of health-related issues. They are leaders in the field of nutrition who display professional competencies oriented toward the promotion and improvement of health through the physical, psychological and social wellbeing of individuals.

Competencies for Graduates:

- Diagnose the nutritional, physical and comprehensive wellbeing status of individuals and the community.
- Formulate nutritional, physical exercise and behavioral modification intervention programs at local, regional and national levels.
- Analyze the way in which economic, social and cultural conditions related to nutrition and physical activity are determinants of health and disease, and understand the role each factor plays in a disease recovery process.
- Define health promotion and disease prevention programs and actions, and participate in interdisciplinary teams.

LNB B.A. Nutrition and Wellness

Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
H1040	Analysis and Verbal Expression	5	0	8
MD1029	Chemical Foundations of Metabolism and Physiology	3	0	8
MD1031	Cell Biology	3	0	8
MD1032	Historical Foundations in Health Sciences	3	0	8
MD1047	Research and Technology in Health Sciences	3	0	8
NU1000	Bases of Nutrition and Exercise	2	2	8
NU1003	Introduction to the Nutrition and Wellness Academic Program	3	0	4
		22	**2**	**52**

Second Semester		C	L	U
H1016	Foreign Language	5	0	8
MD1015	Biostatistics	3	0	8
MD1030	Metabolism and Functional Biochemistry	3	0	8
MD1034	Developmental Biology	3	0	8
MD1036	Basic Morphophysiology	5	0	12
SU1003	Principles of Health Management	2	0	4
		21	**0**	**48**

Third Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
MD1039	Microbiology and Parasitology	3	0	8
MD1040	Musculoskeletal and Digestive Systems	3	0	8
MD1041	Biocontrol Systems	5	0	12
MD1042	Community I	2	0	4
NU1002	Exercise Physiology	2	2	8
		18	**2**	**48**

Fourth Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
MD1045	Vital Processes	5	0	12
MD1048	Community II	2	0	4
NU2000	Exercise in the Life Cycle	3	0	8
NU2003	Nutrition in the Life Cycle	3	0	8
Q2001	Food Chemistry	3	0	8
TA2008	Food Chemistry Laboratory	0	3	4
		19	**3**	**52**

Fifth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
MB2057	Community III	2	2	8
NU2014	Clinical Nutrition Assessment	4	2	12
NU2015	Food, Diet Assessment and Planning Lab	0	3	4
NU2016	Methodology of Physical Activity	2	0	4
NU2017	Clinical Propaedeutic	2	2	8
NU2025	Diet Assessment and Planning	3	0	8
		16	**9**	**52**

Sixth Semester		C	L	U
HS2000	Humanities and Fine Arts	3	0	8
MB2045	Health Psychology	3	0	8
MB2052	Global Health and Preventive Medicine	2	0	4
NU2019	Design of Physical Exercise Programs	2	2	8
TA2009	Nutrition and Nutrigenomics	3	0	8
TA2015	Food Sciences	3	0	8
TA2016	Food Sciences Lab	0	3	4
		16	**5**	**48**

Seventh Semester		C	L	U
HS2005	Citizenship	3	0	8
NU2020	Research and Intervention Programs in Nutrition and Physical Exercise	2	2	8
NU2022	Obesity and Metabolic Syndrome	3	0	8
NU2023	Nutrition Therapy in Eating Disorders	2	2	8
NU2024	Nutrition Therapy in Obesity and Metabolic Syndrome	4	2	12
NU2026	Food Service Administration and Management	2	2	8
		16	**8**	**52**

First Trimester		C	L	U
MC3093	Bioethics	2	0	4
NC3006	Multidisciplinary Internal Medicine Clinic	0	20	4
NC3007	Physical Activity and Disease	2	0	4
NC3008	Clinical Pathologic Entities in Internal Medicine	3	0	8
NC3009	Complementary and Alternative Nutrition	2	0	4
NC3010	Medical Nutrition Therapy in Internal Medicine	3	0	8
		12	**20**	**32**

Second Trimester		C	L	U
MC3096	Clinical Bioethics	2	0	4
NC3000	Multidisciplinary Pediatric Clinic	0	20	4
NC3001	Clinical Pathological Entities in Pediatrics	3	0	8
NC3002	Clinical Nutritional Support in Pediatrics	2	0	4
NC3004	Behavioral Modification Therapy	2	0	4
NC3005	Medical Nutrition Therapy in Pediatrics	3	0	8
		12	**20**	**32**

Third Trimester		C	L	U
OP3024	Professional Elective I	3	0	8
OP3025	Professional Elective II	3	0	8
OP3026	Professional Elective III	3	0	8
		9	**0**	**24**

Fourth Trimester		C	L	U
OP3027	Professional Elective IV	3	0	8
OP3037	Professional Elective V	3	0	8
OP3038	Professional Elective VI	3	0	8
		9	**0**	**24**

Fifth Trimester		C	L	U
NC3011	Multidisciplinary Surgery Clinic	0	20	4
NC3012	Clinical Pathological Entities in Surgery	3	0	8
NC3013	Food Medication Interactions	2	0	4
NC3014	Clinical Nutrition Support	3	0	8
NC3015	Medical Nutrition Therapy in Surgery	3	0	8
		11	**20**	**32**

Sixth Trimester		C	L	U
MC3101	Quality Healthcare and Patient Safety	1	0	2
NC3003	Nutrition in Physical Activity and Exercise	2	0	4
NC3016	Clinical Pathologic Entities in Gynecology, Obstetrics and Geriatrics	3	0	8
NC3017	Medical Nutrition Therapy in Gynecology, Obstetrics and Geriatrics	3	0	8
NC3018	Multidisciplinary Gynecology and Obstetrics Clinic	0	20	4
NU3016	Introduction to Professional Development	2	0	2
		11	**20**	**28**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.S. Clinical Psychology and Health (LPS)

Graduates from this program are professionals who use psychology to promote mental health and its impact on comprehensive wellbeing. They implement actions to prevent disease and mental health disorders that affect the behavior of individuals and groups, participating in the design and management of biopsychosocial health programs in multidisciplinary teams to provide treatment for individuals, groups and social groups.

LPS

Competencies for Graduates:

- Apply social science, biological and psychological knowledge and methods to understand human behavior.
- Provide individual and group psychological care to people with mental health disorders.
- Provide individual and group psychological care to patients with health issues or who are in crisis or high-risk situations.
- Participate in biopsychosocial research projects in local and global settings.
- Undertake innovative actions, as an agent of change, to promote healthcare and prevent mental illness at personal, individual and collective levels.
- Knowledgeable and aware of the economic, social and political reality of their environment; act with solidarity and responsibility to improve the quality of life in communities.
- Identify, analyze and assess ethical dilemmas related to their personal lives, profession and environment. Respect others and the environment.
- Communicate the results of clinical notes, psychological reports, projects and/or studies efficiently, both orally and in writing, in Spanish and English.
- Propose supportive, sustainable solutions that can cultivate citizenship competencies in the communities in which they conduct their development projects.

LPS B.S. Clinical Psychology and Health
Edition 2012

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CC1000	Human Development I	3	0	8
CC1003	General Psychology I	3	0	8
CC1016	Introduction to the Psychology Academic Program	3	0	4
H1016	Foreign Language	5	0	8
MD1029	Chemical Foundations of Metabolism and Physiology	3	0	8
MD1031	Cell Biology	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
CC1001	Human Development II	3	0	8
CC1007	General Psychology II	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1016	Mathematics I	3	0	8
MD1034	Developmental Biology	3	0	8
MD1036	Basic Morphophysiology	5	0	12
		22	**0**	**52**

Third Semester		C	L	U
AD1006	Organizational Learning and Knowledge Management	3	0	8
CC1011	Personality Development	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MD1032	Historical Foundations in Health Sciences	3	0	8
TI1012	Business Information Technology	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CC1005	Learning and Cognitive Development	3	0	8
CC2015	Psychopathology I	3	0	8
CO2004	Qualitative Research Methods	3	0	8
H1018	Ethics, Self and Society	3	0	8
H2033	Social Anthropology	3	0	8
MA1008	Statistics for Research in the Social Sciences	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
CC2001	Social Psychology	3	0	8
CC2012	Scale Design	3	0	8
CC2016	Psychopathology II	3	0	8
CO2003	Quantitative Social Research Methods	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MD1050	Psychophysiology	5	0	12
		20	**0**	**52**

Sixth Semester		C	L	U
AD3018	Planning Processes and Models	3	0	8
CC2010	Psychometrics I	3	0	8
CC2011	Group Dynamics	3	0	8
EM1005	Entrepreneurship	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
RI2034	Negotiation and Conflict Management	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
CC2007	Educational Technology	3	0	8
CC2013	Psychometrics II	3	0	8
CC2014	Interview Workshop	3	0	8
CC3004	Psychology Seminar of Vulnerable Groups	3	0	8
HS2005	Citizenship	3	0	8
RH3006	Strategic Training Management	3	0	8
		18	**0**	**48**

First Trimester		C	L	U
CC3005	Personality Disorders and Anxiety	3	0	8
CC3006	Psychotic Disorders and Mood	3	0	8
CC3007	Clinical Practice I	0	20	4
CC3008	Clinical Interview	3	0	8
MC3093	Bioethics	2	0	4
		11	**20**	**32**

Second Trimester		C	L	U
CC3009	Somatoform Disorders, Factitious Disorders and Simulation	3	0	8
CC3010	Psychology of the Patient in Crisis Situations	3	0	8
CC3011	Psychology of Obstetric and Gynecological Patients	3	0	8
CC3012	Clinical Practice II	0	20	4
MC3096	Clinical Bioethics	2	0	4
		11	**20**	**32**

Third Trimester		C	L	U
OP3024	Professional Elective I	3	0	8
OP3025	Professional Elective II	3	0	8
OP3026	Professional Elective III	3	0	8
OP3027	Professional Elective IV	3	0	8
		12	**0**	**32**

Fourth Trimester		C	L	U
CC3003	Introduction to Professional Development	2	0	2
CC3013	Psychology of Chronic and Terminal Patients	3	0	8
CC3014	Addiction and Eating Disorders Psychology	3	0	8
CC3015	Mental Health Promotion	3	0	8
CC3016	Clinical Practice III	0	20	4
		11	**20**	**30**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Physician & Surgeon (MC)

Graduates from this program are leading, innovative professionals in the field of healthcare, with a strong sense of humanity and sensitivity toward the needs of society. They solve health problems, paying attention to the habits, values and beliefs of individuals and their families, and work as part of a healthcare team with professionalism and ethics, in accordance with the principles of medicine and the official health-system regulatory standards.

Competencies for Graduates:

- Apply the most up-to-date knowledge of medicine to patient care and the prompt identification of diseases.
- Care for patients by applying the strictest scientific quality standards, in a caring, empathetic, ethical manner, always prioritizing their patients' health interests above their own.
- Continuously improve the quality of the care offered, based on the ongoing study of medicine and through the appropriate analysis of medical practice in light of the available scientific evidence.
- Interact with the healthcare team to strengthen, enhance and innovate the existing health-care systems for the benefit of their patients.
- Refer their patients as soon as possible to the appropriate specialist when a disease becomes complex and surpasses the limits of their knowledge of general medicine.

MC Physician & Surgeon
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
TC1001	Introduction to Computer Science	3	0	8
		33	**0**	**56**

First Semester		C	L	U
H1040	Analysis and Verbal Expression	5	0	8
MD1029	Chemical Foundations of Metabolism and Physiology	3	0	8
MD1031	Cell Biology	3	0	8
MD1032	Historical Foundations in Health Sciences	3	0	8
MD1033	Histology	2	2	8
MD1047	Research and Technology in Health Sciences	3	0	8
MD1049	Introduction to the Medical Doctor Academic Program	3	0	4
		22	**2**	**52**

Second Semester		C	L	U
H1016	Foreign Language	5	0	8
MD1015	Biostatistics	3	0	8
MD1030	Metabolism and Functional Biochemistry	3	0	8
MD1034	Developmental Biology	3	0	8
MD1035	Genetics for Health Sciences	3	0	8
MD1036	Basic Morphophysiology	5	0	12
		22	**0**	**52**

Third Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
MD1037	Healthy Environment and Self care	2	0	4
MD1038	Morphofunctional Laboratory	2	2	8
MD1039	Microbiology and Parasitology	3	0	8
MD1040	Musculoskeletal and Digestive Systems	3	0	8
MD1041	Biocontrol Systems	5	0	12
MD1042	Community I	2	0	4
		20	**2**	**52**

Fourth Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
MD1043	Defense and Hemostasis	3	0	8
MD1044	General Pharmacology and Toxicology	3	0	8
MD1045	Vital Processes	5	0	12
MD1046	History Taking and Clinical Examination I	2	2	8
MD1048	Community II	2	0	4
		18	**2**	**48**

Fifth Semester		C	L	U
HS2000	Humanities and Fine Arts	3	0	8
MB2036	Pathophysiology of the Endocrine System	3	0	8
MB2037	Morphological and Functional Pathology I	2	2	8
MB2038	Pathophysiology	5	0	12
MB2039	History Taking and Clinical Examination II	2	2	8
MB2057	Community III	2	2	8
		17	**6**	**52**

Sixth Semester		C	L	U
MB2040	Applied Pharmacology	3	0	8
MB2041	Pathophysiology of the Digestive System and Nutrition	3	0	8
MB2042	Renal Pathophysiology	3	0	8
MB2043	Community Research	2	2	8
MB2044	Morphological and Functional Pathology II	2	2	8
MB2045	Health Psychology	3	0	8
		16	**4**	**48**

Seventh Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
MB2046	Pathophysiology of the Circulatory System	3	0	8
MB2047	Pathophysiology of Respiratory System	3	0	8
MB2048	Clinical Pathology Laboratory	0	3	4
MB2049	Legal and Forensic Medicine	3	0	8
MB2050	Pre hospitalization Care and Clinical Skills	2	2	8
MB2051	Morphological and Functional Pathology III	2	2	8
		16	**7**	**52**

Eighth Semester		C	L	U
HS2005	Citizenship	3	0	8
MB2052	Global Health and Preventive Medicine	2	0	4
MB2053	Pathophysiology of Nervous System	3	0	8
MB2054	Pathophysiology of Reproductive System	3	0	8
MB2055	Family Medicine	2	2	8
MB2056	Morphological and Functional Pathology IV	2	2	8
SU1003	Principles of Health Management	2	0	4
		17	**4**	**48**

First Trimester		C	L	U
MC3084	Cardiology and Metabolic Diseases	3	0	8
MC3085	Internal Medicine Clinic	0	60	12
MC3086	Complementary Medicine	1	0	2
MC3087	Internal Medicine	3	0	8
		7	**60**	**30**

Second Trimester		C	L	U
MC3088	Surgery	5	0	12
MC3089	Surgery Clinic	0	60	12
MC3090	Otorhinolaryngology and Ophthalmology Clinic	0	10	2
MC3091	Otorhinolaryngology and Ophthalmology	2	0	4
		7	**70**	**30**

Third Trimester		C	L	U
MC3093	Bioethics	2	0	4
MC3094	Pediatrics Clinic	0	60	12
MC3095	Pediatrics	5	0	12
MC3101	Quality Healthcare and Patient Safety	1	0	2
		8	**60**	**30**

Fourth Trimester		C	L	U
MC3092	Legal Issues of Medical Practice	1	0	2
MC3096	Clinical Bioethics	2	0	4
MC3097	Obstetrics and Gynecology Clinic	0	60	12
MC3098	Obstetrics and Gynecology	5	0	12
		8	**60**	**30**

Fifth Trimester		C	L	U
MD3000	Introduction to Professional Development	2	0	2
OP3024	Professional Elective I	3	0	8
OP3025	Professional Elective II	3	0	8
OP3039	Professional Elective Clinic	0	60	12
		8	**60**	**30**

Sixth Trimester		C	L	U
MC3099	Critical Appraisal of Medical Literature	1	0	2
MC3102	Emergency Clinic	0	20	4
MC3103	Radiology Clinic	0	20	4
MC3104	Traumatology, Orthopedics and Rehabilitation Clinic	0	20	4
MC3105	Emergencies	2	0	4
MC3106	Radiology	2	0	4
MC3107	Traumatology, Orthopedics and Rehabilitation	3	0	8
		8	**60**	**30**

Seventh Trimester		C	L	U
MC3108	Geriatrics Clinic	0	20	4
MC3109	Neurology and Neurosurgery Clinic	0	20	4
MC3110	Psychiatry Clinic	0	20	4
MC3111	Geriatrics	2	0	4
MC3112	Neurology and Neurosurgery	3	0	8
MC3113	Psychiatry	2	0	4
		7	**60**	**28**

Eighth Trimester		C	L	U
MC3114	Dermatology Clinic	0	20	4
MC3115	Oncology Clinic	0	20	4
MC3116	Rheumatology and Allergies Clinic	0	20	4
MC3117	Dermatology	2	0	4
MC3118	Medical Immunology	2	0	4
MC3119	Oncology and Palliative Care	2	0	4
MC3120	Rheumatology and Allergies	2	0	4
		8	**60**	**28**

The unit's and academic charge definition for the Clinical Medicine (Rotary Internship) DCS student has a different meaning than for the rest of the Tecnologico de Monterrey's academic programs. The academic charge for the student is defined as the weekly work hours that are hoped the student can dedicate to the course and the fulfillment of the objectives of the same; these hours, H or U, (the highest number) include minimum presentable Internship hours, Class , Laboratory , Ambulatory Attention, Clinical Visit, Propaedeutic and Community , as well as hours of individual and/or collaborative autostudy. The units (U) are also used to determine the students tuition fee.

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Medical and Surgical Dentist (MO)

Graduates from this program are professionals with a broad, sound knowledge of health sciences, and the capacity and skills to diagnose, pre
vent and treat, with an interdisciplinary approach, oral diseases and disorders using innovative techniques and procedures, in order to contribute to the preservation of people's comprehensive well-being.

MO

Competencies for Graduates:

- Address oral health requirements in an ethical, professional humanistic manner, applying biomedical and clinical sciences and using innovative techniques and procedures.
- Diagnose oral diseases by integrating the findings of the patient's medical records, physical examination and auxiliary tests to establish a comprehensive dental treatment plan, considering the individual characteristics of each patient.
- Carry out basic procedures in the diverse areas of dentistry to reestablish the health, function and aesthetics of the tissues that comprise the oral cavity in children, adults, senior citizens and special-needs individuals.

MO Medical and Surgical Dentist
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
H1040	Analysis and Verbal Expression	5	0	8
MD1029	Chemical Foundations of Metabolism and Physiology	3	0	8
MD1031	Cell Biology	3	0	8
MD1032	Historical Foundations in Health Sciences	3	0	8
MD1033	Histology	2	2	8
MD1047	Research and Technology in Health Sciences	3	0	8
OD1005	Introduction to the Dentistry Academic Program	3	0	4
		22	**2**	**52**

Second Semester		C	L	U
H1016	Foreign Language	5	0	8
MD1015	Biostatistics	3	0	8
MD1030	Metabolism and Functional Biochemistry	3	0	8
MD1034	Developmental Biology	3	0	8
MD1035	Genetics for Health Sciences	3	0	8
MD1036	Basic Morphophysiology	5	0	12
		22	**0**	**52**

Third Semester		C	L	U
MD1037	Healthy Environment and Self-care	2	0	4
MD1038	Morphofunctional Laboratory	2	2	8
MD1039	Microbiology and Parasitology	3	0	8
MD1041	Biocontrol Systems	5	0	12
MD1042	Community I	2	0	4
OD1006	Oral Morphophysiology Laboratory	2	2	8
OD1007	Oral Morphophysiology	3	0	8
		19	**4**	**52**

Fourth Semester		C	L	U
H1018	Ethics, Self and Society	3	0	8
MD1045	Vital Processes	5	0	12
MD1048	Community II	2	0	4
OD1002	Oral Pathology	2	2	8
OD1008	History Taking and Oral Clinical Examination	2	2	8
OD1009	Dental Radiology	2	2	8
		16	**6**	**48**

Fifth Semester		C	L	U
H2001	Verbal Expression in the Workplace	3	0	8
MB2057	Community III	2	2	8
MD1043	Defense and Hemostasis	3	0	8
OD2000	Dental Biomaterials	3	0	8
OD2008	Dental Biomaterials Laboratory	0	3	4
OD2009	Oral Surgery and Anesthesia Preclinic	2	2	8
OD2010	Basic Multidisciplinary Dental Preclinic	2	2	8
		15	**9**	**52**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
MB2050	Pre-hospitalization Care and Clinical Skills	2	2	8
MD1044	General Pharmacology and Toxicology	3	0	8
OD2011	Multidisciplinary Dentistry	3	0	8
OD2012	Dental Research Seminar	2	0	4
OD3016	Multidisciplinary Dental Clinic I	0	6	8
OD3017	Advanced Multidisciplinary Dental Preclinic	2	2	8
		15	**10**	**52**

Seventh Semester		C	L	U
HS2000	Humanities and Fine Arts	3	0	8
MB2052	Global Health and Preventive Medicine	2	0	4
OD1010	Preventive Dentistry	2	0	4
OD2013	Oral Surgery Clinic I	0	6	8
OD2014	Pediatric and Orthodontic Dental Preclinic	2	2	8
OD3018	Multidisciplinary Dental Clinic II	0	6	8
OD3019	Oral Implantology	3	0	8
		12	**14**	**48**

Eighth Semester		C	L	U
HS2005	Citizenship	3	0	8
MB2045	Health Psychology	3	0	8
OD2015	Prosthodontic Dental Preclinic	2	2	8
OD3020	Oral Surgery II	0	6	8
OD3021	Pediatric and Orthodontic Dental Clinic	0	6	8
OD3022	Preventive Dentistry Clinic	0	6	8
OD3023	Oral Medicine	2	0	4
		10	**20**	**52**

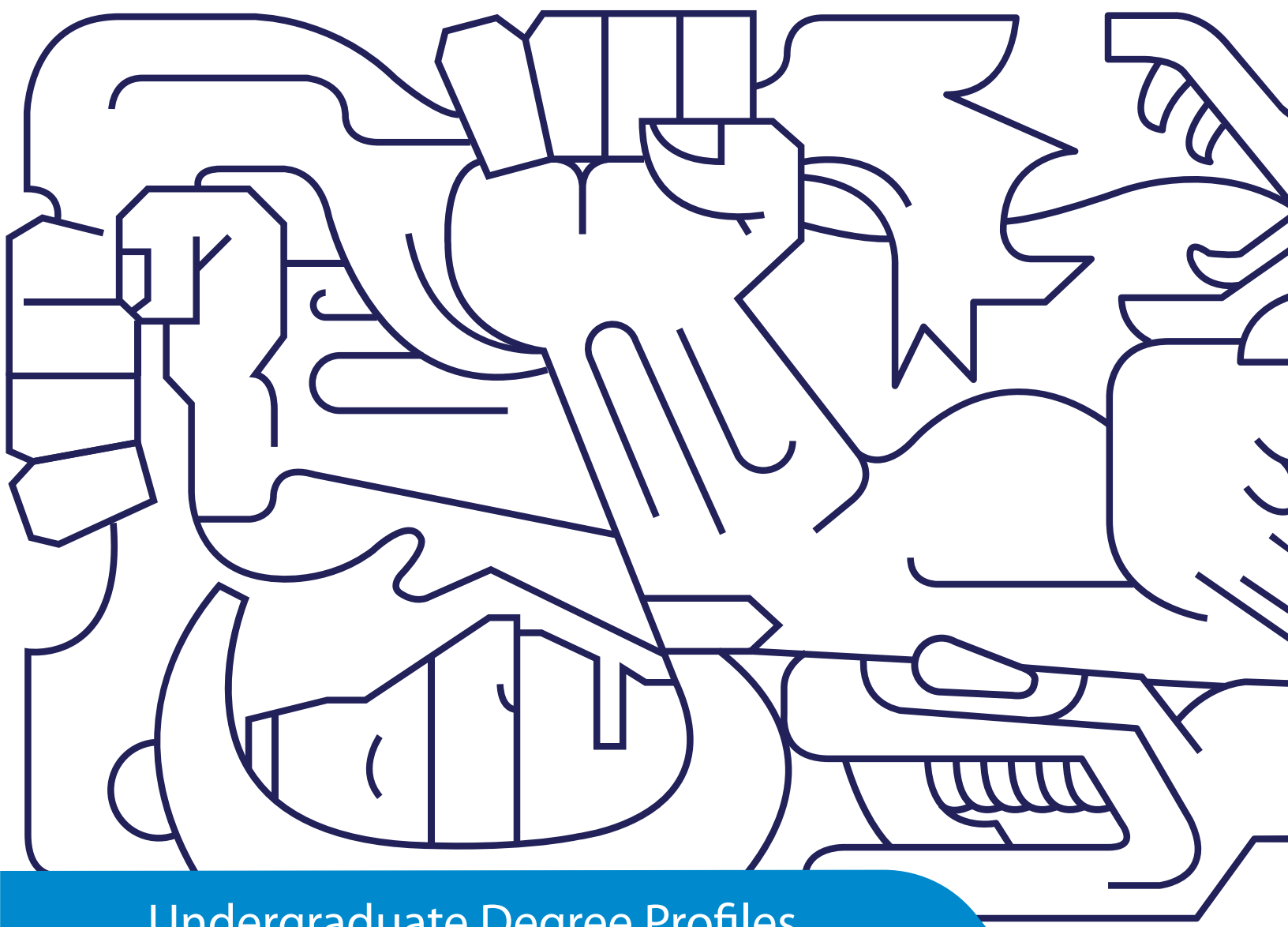
Ninth Semester		C	L	U
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		18	**0**	**48**

Tenth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
OD3004	Introduction to Professional Development	2	0	2
OD3024	Oral Surgery III	0	6	8
OD3025	Special, High Risk and Emergency Dental Clinic	0	6	8
OD3026	Prosthodontic Dental Clinic	0	6	8
OD3027	Evidence-based Dentistry	2	0	4
OD3028	Multidisciplinary Dental Seminar	3	0	8
SU1003	Principles of Health Management	2	0	4
		12	**18**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)



Undergraduate Degree Profiles
and Curricula

School of Business

Bachelor of Business Administration (LAE)

Graduates from this program are highly skilled in the area of strategic business innovation, which contributes to the creation of new business models, making it possible to manage and direct public and private organizations and/or family businesses efficiently and effectively, with a systemic, ethical and humanistic approach.

LAE

Competencies for Graduates:

- Identify, design and capitalize on business opportunities through regional analysis, the use of technology and commitment to sustainable development.
- Contribute to the professionalization and enhancement of family businesses, promoting the best corporate governance practices.
- Ensure business sustainability through the effective management of human, financial, technological and organizational resources, within a framework of ethics and citizenship.
- Perform auditing and consulting activities to diagnose and implement solutions to organizational problems.
- Negotiate successfully with diverse stakeholders in multicultural contexts.

LAE Bachelor of Business Administration
Edition 2016

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1011	Introduction to Business Field	3	0	4
CF1008	Financial Information for Decision Making	3	0	8
D1021	Business Law	3	0	8
H1016	Foreign Language	5	0	8
MA1016	Mathematics I	3	0	8
OP1008	Exploration Elective A -I	3	0	8
OP1009	Exploration Elective A -II	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
EC1008	Enterprise Economics	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1018	Mathematics II	3	0	8
OP1010	Exploration Elective B -I	3	0	8
OP1011	Exploration Elective B -II	3	0	8
OP1012	Exploration Elective B -III	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
EC1009	Macroeconomic Environment	3	0	8
H1018	Ethics, Self and Society	3	0	8
OP1013	Exploration Elective C -I	3	0	8
OP1014	Exploration Elective C -II	3	0	8
OP1015	Exploration Elective C -III	3	0	8
VA1000	Complementary Exploration Elective	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CF1011	Managerial Accounting	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MT2025	Consumer Behavior and Market Intelligence	3	0	8
OP1016	Exploration Elective C -IV	3	0	8
OP1017	Exploration Elective C -V	3	0	8
OP1018	Exploration Elective C -VI	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
AD3018	Planning Processes and Models	3	0	8
CD2006	Forecasting for Decision Making	3	0	8
CH2007	Human Capital Management by Competencies	3	0	8
FZ1006	Personal and Business Finance	3	0	8
FZ2016	Project Valuation and Financing	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
CD2007	Quantitative and Optimization Models	3	0	8
CF2019	Control and Business Development	3	0	8
EM1005	Entrepreneurship	3	0	8
HS2005	Citizenship	3	0	8
HS2006	Applied Ethics	3	0	8
NI2018	Analysis and Management of the Value Chain	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
OP3051	Professional Elective I	3	0	8
OP3052	Professional Elective II	3	0	8
OP3053	Professional Elective III	3	0	8
OP3054	Professional Elective IV	3	0	8
OP3055	Professional Elective V	3	0	8
OP3056	Professional Elective VI	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
OP3061	Complementary Professional Elective I	3	0	8
OP3062	Complementary Professional Elective II	3	0	8
OP3063	Complementary Professional Elective III	3	0	8
OP3064	Complementary Professional Elective IV	3	0	8
OP3065	Complementary Professional Elective V	3	0	8
OP3066	Complementary Professional Elective VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AD3025	Introduction to Professional Development	2	0	2
VA3101	Elective I	3	0	8
VA3102	Elective II	3	0	8
VA3103	Elective III	3	0	8
VA3104	Elective IV	3	0	8
VA3105	Elective V	3	0	8
VA3106	Elective VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Elective Courses

Exploration Elective A, B and C

		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CD1003	Statistical Methods for Decision Making	3	0	8
CF1009	Cost and Price Management	3	0	8
CF2015	Financial Information Analysis	3	0	8
D1022	Business Law and Intellectual Property	3	0	8
FZ1005	Financial Mathematics	3	0	8
MT1003	Marketing and Creativity	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
TI1012	Business Information Technology	3	0	8

Professional Elective Courses (1)

Finance		C	L	U
FZ2006	Money and Capital Markets	3	0	8
FZ2013	Regulation and Structure of Financial Institutions	3	0	8
FZ2015	Financial Structure and Corporate Governance	3	0	8
FZ3025	Credit Management	3	0	8
FZ3026	Valuation, Mergers and Acquisitions	3	0	8
FZ3036	Project Finance	3	0	8

Logistics		C	L	U
LN1000	Logistics from a Global Perspective	3	0	8
LN1002	Package, Packing and Material Handling	3	0	8
LN1005	Purchasing and Inventory Management	3	0	8
LN2000	Transportation Systems	3	0	8
LN2001	International Commerce Operations	3	0	8
LN3012	International Logistics Project	3	0	8

Complementary Professional Elective Courses (3)

Retailing		C	L	U
MT2026	Introduction to Retail and Visual Merchandising	3	0	8
MT3043	Assortment Management for a Store	3	0	8
MT3044	Store management and customer service	3	0	8
MT3045	Multichannel retail strategy	3	0	8
MT3046	Integrated Project in Retail I	3	0	8
MT3047	Integrated Project in Retail II	3	0	8

Communication and Public Relations		C	L	U
AV2013	Digital Design and Production	3	0	8
CR1000	Strategic Communication Fundamentals	3	0	8
CR2001	Corporate Image	3	0	8
CR2002	Public Relations	3	0	8
CR2003	Applied Strategic Communication	3	0	8
CR3001	Persuasive Campaign Design	3	0	8

(1) Non-accredited Professional Concentrations may also be considered as Complementary Professional Concentrations.

B.A. Financial Management (LAF)

Graduates from this program are professionals with a solid quantitative and business background who generate value for the organization by managing and optimizing the financial resources, acting at all times with ethics and social responsibility and complying fully with the prevailing regulatory framework.

Competencies for Graduates:

- Make investment and financing decisions in both national and international settings.
- Optimize the available resources and manage risk as a result of decision making.
- Use information technologies efficiently in order to operate in national and international financial markets, and support businesses' comprehensive strategy.
- Harmonize the financial interests of the organizational stakeholders, promoting good corporate governance practices.
- Operate instruments on the stock market in order to maximize the return on investment.

LAF B.A. Financial Management
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
D1021	Business Law	3	0	8
FZ1007	Introduction to the Finance Management Academic Program	3	0	4
H1016	Foreign Language	5	0	8
MA1015	Mathematics I	3	0	8
TI1012	Business Information Technology	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
CF1009	Cost and Price Management	3	0	8
D1022	Business Law and Intellectual Property	3	0	8
EC1008	Enterprise Economics	3	0	8
FZ1005	Financial Mathematics	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1017	Mathematics II	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
AD1006	Organizational Learning and Knowledge Management	3	0	8
CF1011	Managerial Accounting	3	0	8
H1018	Ethics, Self and Society	3	0	8
MA1020	Statistics I	3	0	8
MT1003	Marketing and Creativity	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
AD2011	Innovation, Markets and Technological Development	3	0	8
CD2007	Quantitative and Optimization Models	3	0	8
CF2015	Financial Information Analysis	3	0	8
FZ2006	Money and Capital Markets	3	0	8
FZ2013	Regulation and Structure of Financial Institutions	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
EC2003	Financial Econometrics I	3	0	8
FZ1006	Personal and Business Finance	3	0	8
FZ2014	Management of Banks and Financial Groups	3	0	8
FZ2015	Financial Structure and Corporate Governance	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
VA2010	Topics I	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
EC2004	Financial Econometrics II	3	0	8
EM1005	Entrepreneurship	3	0	8
FZ2016	Project Valuation and Financing	3	0	8
FZ3027	Derivatives Valuation	3	0	8
NI2018	Analysis and Management of the Value Chain	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
CF2018	Strategic Information Systems	3	0	8
FZ2017	Debt Instruments and Securitization	3	0	8
FZ3009	International Financial Management	3	0	8
FZ3025	Credit Management	3	0	8
FZ3026	Valuation, Mergers and Acquisitions	3	0	8
VA2012	Topics III	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
AD2013	Project and Process Strategic Management	3	0	8
FZ3028	Investment Management	3	0	8
FZ3030	Financial Modeling	3	0	8
HS2005	Citizenship	3	0	8
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AD3024	Planning, Innovation and Strategic Sustainability	3	0	8
CF1013	Taxes and Business Strategies	3	0	8
FZ3031	Risk Management and Regulation	3	0	8
FZ3032	Seminar of Finance	3	0	8
FZ3033	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Business Creation and Development (LCDE)

Graduates from this program are professionals with ethical integrity, social responsibility and a solid background in mathematics, specializing in the incubation and generation of new businesses that contribute to economic and business development.

Competencies for Graduates:

- Incubate new businesses, focusing on industry-based and service companies.
- Detect, evaluate and implement investment projects.
- Provide continuity to and promote the development of existing family businesses.
- Form business networks to compete in a globalized world.

LCDE

LCDE B.A. Business Creation and Development
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
DE1005	Introduction to the Business Creation and Development Academic Program	3	0	4
DL1009	Creativity and Innovation	3	0	8
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1016	Mathematics I	3	0	8
		25	**0**	**52**

Second Semester		C	L	U
AD1006	Organizational Learning and Knowledge Management	3	0	8
CF1009	Cost and Price Management	3	0	8
DE1004	Business Technology and the OET	3	0	8
EC1008	Enterprise Economics	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MA1018	Mathematics II	3	0	8
		18	**0**	**48**

Third Semester		C	L	U
CD1003	Statistical Methods for Decision Making	3	0	8
CF1011	Managerial Accounting	3	0	8
D1021	Business Law	3	0	8
FZ1005	Financial Mathematics	3	0	8
MT1003	Marketing and Creativity	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
AD2011	Innovation, Markets and Technological Development	3	0	8
CD2006	Forecasting for Decision Making	3	0	8
CF2015	Financial Information Analysis	3	0	8
H1018	Ethics, Self and Society	3	0	8
MT2006	Consumer Behavior	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
CD2007	Quantitative and Optimization Models	3	0	8
DE2002	Innovation and Designing a Product or Service	3	0	8
EC1009	Macroeconomic Environment	3	0	8
FZ1006	Personal and Business Finance	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
IN3035	Analysis and Enhancement of Manufacturing Systems	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
AD3017	Family Business and Corporate Governance	3	0	8
DE3013	Pre-Incubation and Business Feasibility	1	4	8
EM1005	Entrepreneurship	3	0	8
FZ2016	Project Valuation and Financing	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
NI2018	Analysis and Management of the Value Chain	3	0	8
		16	**4**	**48**

Seventh Semester		C	L	U
AD2013	Project and Process Strategic Management	3	0	8
CF2018	Strategic Information Systems	3	0	8
DE3014	Incubation and Business Models	1	4	8
HS2005	Citizenship	3	0	8
NI2017	Competitive Intelligence and Geo-economics	3	0	8
VA2010	Topics I	3	0	8
		16	**4**	**48**

Eighth Semester		C	L	U
AD3024	Planning, Innovation and Strategic Sustainability	3	0	8
DE3015	Business Incubation and Starting Up Strategic Operations	1	4	8
DE3016	Incubation and Financing of New Ventures	1	4	8
FZ3029	International Finance and Risk Management	3	0	8
IN3039	Problem-Solving Methodologies	3	0	8
VA2011	Topics II	3	0	8
		14	**8**	**48**

Ninth Semester		C	L	U
DE3017	Strategies for Market Positioning	3	0	8
DE3018	Incubation and Strategic Control of Cash Flow	1	4	8
DE3019	Family Business Acceleration Models	3	0	8
DE3020	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		18	**4**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Finance & Accounting (LCPF)

Graduates from this program are experts in financial information with a solid grounding in finance. They have the capacity to control management, evaluate value creation and identify opportunities for growth in organizations.

They are trained to evaluate, based on ethical criteria, the quality and reliability of the financial-fiscal information generated by organizations in accordance with the relevant international standards for issuing recommendations, thus contributing to their financial stability.

LCPF

Competencies for Graduates:

- Plan, implement and control processing systems for accounting, financial, fiscal and control data, incorporating national and international standards and contributing to the generation of value in organizations.
- Integrate and reconcile the interests of the functional areas of a company in order to achieve its objectives, through the strategic use of the accounting, financial and fiscal information.
- Evaluate and form opinions on the quality and reliability of the financial and fiscal information generated by organizations.
- Integrate, analyze and interpret financial and administrative information to detect areas of opportunity in the organization.
- Formulate and implement financial and fiscal strategies that allow the company to maintain and efficiently use its economic resources.

LCPF B.A. Finance & Accounting
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
CF1014	Introduction to the Public Accounting and Finance Academic Program	3	0	4
D1021	Business Law	3	0	8
H1016	Foreign Language	5	0	8
MA1016	Mathematics I	3	0	8
TI1012	Business Information Technology	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
CF1009	Cost and Price Management	3	0	8
D1022	Business Law and Intellectual Property	3	0	8
EC1008	Enterprise Economics	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1018	Mathematics II	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
CD1003	Statistical Methods for Decision Making	3	0	8
CF1011	Managerial Accounting	3	0	8
EC1009	Macroeconomic Environment	3	0	8
FZ1005	Financial Mathematics	3	0	8
MT1003	Marketing and Creativity	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CD2006	Forecasting for Decision Making	3	0	8
CF2015	Financial Information Analysis	3	0	8
FZ1006	Personal and Business Finance	3	0	8
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
CD2007	Quantitative and Optimization Models	3	0	8
CF1012	Tax Accounting Fundamentals	3	0	8
CF2006	Intermediate Accounting: Operating Cycle and Investment	3	0	8
CF2016	Activity Based Costing for Products and Services	3	0	8
FZ2006	Money and Capital Markets	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
AD2013	Project and Process Strategic Management	3	0	8
CF2007	Intermediate Accounting: Financing Cycle and Updating Information	3	0	8
CF2018	Strategic Information Systems	3	0	8
CF3018	Corporate Taxation	3	0	8
EM1005	Entrepreneurship	3	0	8
FZ2016	Project Valuation and Financing	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
CF2017	Financial Statement Auditing	3	0	8
CF3019	Corporate Accounting	3	0	8
CF3020	Personal Taxation	3	0	8
FZ2015	Financial Structure and Corporate Governance	3	0	8
FZ3027	Derivatives Valuation	3	0	8
HS2005	Citizenship	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
CF2019	Control and Business Development	3	0	8
CF3021	International Financial Reports	3	0	8
CF3022	Assurance and Risk Evaluation	3	0	8
FZ3009	International Financial Management	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AD3024	Planning, Innovation and Strategic Sustainability	3	0	8
CF3006	International Taxation	3	0	8
CF3008	Strategic Accounting	3	0	8
CF3025	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Marketing (LEM)

Graduates from this program are business professionals who are capable of identifying and analyzing consumers' needs worldwide to develop innovative, sustainable commercial strategies that contribute to brand value, in an honest, ethical manner while respecting the rights of other companies.

Competencies for Graduates:

- Evaluate and implement financially solid marketing strategies.
- Generate market intelligence to satisfy the consumer's needs and support the company's corporate objectives, using leading-edge technology.
- Develop products or services that help to meet the needs of consumers, taking into consideration resource and environmental sustainability.
- Implement strategies that foster lasting company-customer-supplier relationships.

LEM

LEM B.A. Marketing
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
D1021	Business Law	3	0	8
H1016	Foreign Language	5	0	8
MA1016	Mathematics I	3	0	8
MT1004	Introduction to the Marketing Academic Program	3	0	4
TI1012	Business Information Technology	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
AD1006	Organizational Learning and Knowledge Management	3	0	8
CF1009	Cost and Price Management	3	0	8
D1022	Business Law and Intellectual Property	3	0	8
EC1008	Enterprise Economics	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1018	Mathematics II	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
CD1003	Statistical Methods for Decision Making	3	0	8
CF1011	Managerial Accounting	3	0	8
FZ1005	Financial Mathematics	3	0	8
MT1003	Marketing and Creativity	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CD2006	Forecasting for Decision Making	3	0	8
CF2015	Financial Information Analysis	3	0	8
EC1009	Macroeconomic Environment	3	0	8
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
AD2011	Innovation, Markets and Technological Development	3	0	8
CD2007	Quantitative and Optimization Models	3	0	8
FZ1006	Personal and Business Finance	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MT2006	Consumer Behavior	3	0	8
NI2017	Competitive Intelligence and Geo-economics	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
EM1005	Entrepreneurship	3	0	8
FZ2016	Project Valuation and Financing	3	0	8
MT2007	Qualitative Marketing Research	3	0	8
MT2020	Strategic Services Marketing	3	0	8
MT2021	Promotion, Media and Public Relations	3	0	8
NI2018	Analysis and Management of the Value Chain	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
CF2018	Strategic Information Systems	3	0	8
HS2005	Citizenship	3	0	8
MT2013	Quantitative Marketing Research	3	0	8
MT3019	Digital Commerce and Sales	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
MT2009	B2B Marketing	3	0	8
MT3020	Distribution Strategies	3	0	8
MT3021	Pricing Strategy	3	0	8
MT3022	Market Intelligence	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AD3024	Planning, Innovation and Strategic Sustainability	3	0	8
HS2006	Applied Ethics	3	0	8
MT3023	Global Brands and Product Development	3	0	8
MT3024	Strategic Marketing Capstone Seminar	3	0	8
MT3025	Introduction to Professional Development	2	0	2
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. International Business (LIN)

Graduates from this program are specialists in effective communication, interaction and negotiation between different cultures and are trained to identify and take advantage of global business opportunities, developing innovative solutions consisten.

Competencies for Graduates:

- Detect, analyze and take advantage of business and investment opportunities between companies and countries worldwide that favor the development of the country.
- Consolidate international businesses in diverse political, economic, social and cultural settings, respecting diversity and freedom of thought, exercising influence and resolving intercultural disputes during the negotiations.
- Develop international marketing strategies, integrating production and service chains, in the framework of customs operations and make the best possible use of international trade agreements.
- Use specialized, cutting-edge information technologies for operations, marketing and decision making.

LIN B.A. International Business
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
D1021	Business Law	3	0	8
H1016	Foreign Language	5	0	8
MA1016	Mathematics I	3	0	8
NI1003	Introduction to the International Business Academic Program	3	0	4
TI1012	Business Information Technology	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
CF1009	Cost and Price Management	3	0	8
D1022	Business Law and Intellectual Property	3	0	8
EC1008	Enterprise Economics	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1018	Mathematics II	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
CD1003	Statistical Methods for Decision Making	3	0	8
CF1011	Managerial Accounting	3	0	8
FZ1005	Financial Mathematics	3	0	8
MT1003	Marketing and Creativity	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
RI1004	International Politics	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CD2006	Forecasting for Decision Making	3	0	8
EC1009	Macroeconomic Environment	3	0	8
H1018	Ethics, Self and Society	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
NI2015	Regional Business Development	3	0	8
RI2031	Geopolitics and Global Changes	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
CD2007	Quantitative and Optimization Models	3	0	8
FZ1006	Personal and Business Finance	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
NI2016	Legal Aspects of International Commerce	3	0	8
NI2017	Competitive Intelligence and Geo-economics	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
AD2011	Innovation, Markets and Technological Development	3	0	8
EC2026	Economics for International Business	3	0	8
EM1005	Entrepreneurship	3	0	8
FZ2016	Project Valuation and Financing	3	0	8
NI2018	Analysis and Management of the Value Chain	3	0	8
NI3035	Intercultural Negotiation and Communication	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
CF2018	Strategic Information Systems	3	0	8
HS2005	Citizenship	3	0	8
NI2019	International Logistics	3	0	8
NI2020	Customs Operations	3	0	8
NI3036	International Trade Agreements	3	0	8
VA2010	Topics I	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
AD2013	Project and Process Strategic Management	3	0	8
FZ3029	International Finance and Risk Management	3	0	8
NI3037	International Services Development	3	0	8
NI3038	International Business Intelligence	3	0	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AD3024	Planning, Innovation and Strategic Sustainability	3	0	8
HS2006	Applied Ethics	3	0	8
NI3039	International Business Management	3	0	8
NI3040	Introduction to Professional Development	2	0	2
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. International Logistics (LLN)

Graduates from this program are specialists in the design, implementation and management of provision technologies that optimize the supply, operation and distribution of the production for companies with national and international operations. They have the capacity to detect business opportunities within the supply chain.

Competencies for Graduates:

- Knowledgeable and aware of the economic, social and political reality, taking it into account when designing, executing and managing supply and distribution systems.
- Identify and solve logistics problems (purchases, materials management, inventory optimization, merchandise transportation, distribution channels and customer service) using quantitative tools and information technologies.
- Generate relevant information for the organization based on the statistical analysis of the supply chain's functional data.
- Influence and motivate people in order to set goals and work efficiently in conjunction with the other members of the supply chain.
- Find a positive resolution for any ethical dilemmas that might arise in supply chain management.

LLN B.A. International Logistics
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
D1021	Business Law	3	0	8
H1016	Foreign Language	5	0	8
LN1007	Introduction to International Logistics Academic Program	3	0	4
MA1016	Mathematics I	3	0	8
TI1012	Business Information Technology	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
AD1006	Organizational Learning and Knowledge Management	3	0	8
CF1009	Cost and Price Management	3	0	8
D1022	Business Law and Intellectual Property	3	0	8
EC1008	Enterprise Economics	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1018	Mathematics II	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
CD1003	Statistical Methods for Decision Making	3	0	8
CF1011	Managerial Accounting	3	0	8
FZ1005	Financial Mathematics	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MT1003	Marketing and Creativity	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CD2006	Forecasting for Decision Making	3	0	8
CF2015	Financial Information Analysis	3	0	8
EC1009	Macroeconomic Environment	3	0	8
H1018	Ethics, Self and Society	3	0	8
LN1000	Logistics from a Global Perspective	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
AD2011	Innovation, Markets and Technological Development	3	0	8
CD2007	Quantitative and Optimization Models	3	0	8
FZ1006	Personal and Business Finance	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
LN1005	Purchasing and Inventory Management	3	0	8
RH1000	Organizational Behavior and Human Talent Development	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
CF2018	Strategic Information Systems	3	0	8
EM1005	Entrepreneurship	3	0	8
FZ2016	Project Valuation and Financing	3	0	8
LN2000	Transportation Systems	3	0	8
LN3008	Production Logistics	3	0	8
NI2018	Analysis and Management of the Value Chain	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
AD2013	Project and Process Strategic Management	3	0	8
HS2005	Citizenship	3	0	8
LN1002	Package, Packing and Material Handling	3	0	8
LN1006	Distribution Systems	3	0	8
LN2001	International Commerce Operations	3	0	8
NI2017	Competitive Intelligence and Geo-economics	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AD3024	Planning, Innovation and Strategic Sustainability	3	0	8
FZ3029	International Finance and Risk Management	3	0	8
HS2006	Applied Ethics	3	0	8
LN1013	Customer Service Systems	3	0	8
LN3009	Strategic Supply Chain Management	3	0	8
LN3010	Logistics Systems Modeling	3	0	8
LN3011	Introduction to Professional Development	2	0	2
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Marketing and Communication (LMC)

Graduates from this program are professionals who design and implement innovative communication strategies applied to marketing, responding to the global, dynamic environment of organizations. They interpret market and media data to identify business opportunities.

Competencies for Graduates:

- Design, produce and execute comprehensive communication strategies related to markets, advertising, public relations, sales promotion and digital media, considering the company's resources and market knowledge.
- Detect the communication needs of an organization, comprehending the characteristics of its customers in accordance with the ethics and morals inherent to the practice of this profession.
- Use cutting-edge technology with a strategic approach in order to ntegrate marketing communication activities with clients and companies in national and international contexts.
- Develop strategies that foster lasting company-customer-supplier relations.
- Generate persuasive texts in marketing communication campaigns.

LMC B.A. Marketing and Communication
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
D1021	Business Law	3	0	8
H1016	Foreign Language	5	0	8
MA1016	Mathematics I	3	0	8
MT1005	Introduction to Marketing and Communication Academic Program	3	0	4
TI1012	Business Information Technology	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
CF1009	Cost and Price Management	3	0	8
D1022	Business Law and Intellectual Property	3	0	8
DL1002	Design Fundamentals I	4	0	8
EC1008	Enterprise Economics	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
MA1018	Mathematics II	3	0	8
		21	**0**	**48**

Third Semester		C	L	U
AV1004	Audiovisual Language and Narrative	3	0	8
CC1012	Psychology and Multicultural Environment Leadership	3	0	8
CF1011	Managerial Accounting	3	0	8
H1018	Ethics, Self and Society	3	0	8
MT1003	Marketing and Creativity	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
AV1000	Photography and Digital Imaging	3	0	8
CD1003	Statistical Methods for Decision Making	3	0	8
CF2015	Financial Information Analysis	3	0	8
EC1009	Macroeconomic Environment	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MT2006	Consumer Behavior	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
AV1001	Graphic Design	3	0	8
AV2002	Digital and Graphic Design Laboratory	0	3	4
AV2005	Advertising and Commercial Photography	3	0	8
CD2006	Forecasting for Decision Making	3	0	8
H1031	Contemporary Art and Culture	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MT2019	Advertising and Interactive Media	3	0	8
		18	**3**	**52**

Sixth Semester		C	L	U
AD2011	Innovation, Markets and Technological Development	3	0	8
AV2004	Scriptwriting	3	0	8
AV2006	Media Narrative Design and Production	3	0	8
AV2011	Massive Media Lab	0	3	4
EM1005	Entrepreneurship	3	0	8
MT2007	Qualitative Marketing Research	3	0	8
NI2018	Analysis and Management of the Value Chain	3	0	8
		18	**3**	**52**

Seventh Semester		C	L	U
AV2009	Media Projects Management and Evaluation	3	0	8
AV3001	Interactive Media Design and Production	3	0	8
AV3012	Digital Media Lab	0	3	4
HS2005	Citizenship	3	0	8
MT2013	Quantitative Marketing Research	3	0	8
MT3019	Digital Commerce and Sales	3	0	8
NI2017	Competitive Intelligence and Geo-economics	3	0	8
		18	**3**	**52**

Eighth Semester		C	L	U
AD3024	Planning, Innovation and Strategic Sustainability	3	0	8
AV3011	Design and Production of Communication for Organizations	3	0	8
MT3021	Pricing Strategy	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
MT3023	Global Brands and Product Development	3	0	8
MT3026	Introduction to Professional Development	2	0	2
MT3027	Integrated Marketing Communication	3	0	8
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Advertising and Marketing Communications (LPM)

Graduates from this program are successful professionals in the field of business who use their knowledge of social behavior and the humanities to construct bridges for communication, understanding and mutual benefit between organizations and their markets.

LPM

Competencies for Graduates:

- Identify and understand the diverse brand audiences and markets, as well as their culture and lifestyles.
- Construct beneficial exchange relations for both consumers and the organization.
- Conceptualize and create persuasive messages and contacts as a means of enlightening consumers about brands, skillfully using the most advanced digital communication tools and platforms.
- Analyze critically and reflexively the social, economic, political and cultural contexts and trends related to their organization and environment on both local and global levels.
- Design, produce and execute comprehensive communication strategies related to markets, advertising, public relations, sales promotion and digital media, considering the company's resources and market nowledge.
- Develop entrepreneurial and leadership skills in public, private and social enterprises, in national and international settings.

LPM Advertising and Marketing Communications
Edition 2012

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CF1008	Financial Information for Decision Making	3	0	8
D1021	Business Law	3	0	8
H1016	Foreign Language	5	0	8
MA1016	Mathematics I	3	0	8
MT1007	Introduction to Advertising and Marketing Communications Academic Program	3	0	4
TI1012	Business Information Technology	3	0	8
		23	**0**	**52**

Second Semester		C	L	U
CF1009	Cost and Price Management	3	0	8
D1022	Business Law and Intellectual Property	3	0	8
EC1008	Enterprise Economics	3	0	8
H1040	Analysis and Verbal Expression	5	0	8
H2033	Social Anthropology	3	0	8
MA1008	Statistics for Research in the Social Sciences	3	0	8
		20	**0**	**48**

Third Semester		C	L	U
CC1014	Psychology	3	0	8
DL1002	Design Fundamentals I	4	0	8
DL1009	Creativity and Innovation	3	0	8
H1018	Ethics, Self and Society	3	0	8
MT1003	Marketing and Creativity	3	0	8
P1000	Sociology	3	0	8
		19	**0**	**48**

Fourth Semester		C	L	U
A1001	Contemporary Visual Culture and Design	3	0	8
EC1009	Macroeconomic Environment	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
MT2006	Consumer Behavior	3	0	8
MT2007	Qualitative Marketing Research	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
AV1000	Photography and Digital Imaging	3	0	8
CF2015	Financial Information Analysis	3	0	8
CO2003	Quantitative Social Research Methods	3	0	8
CO2008	Communication and Media Studies	3	0	8
H1048	Narrative Structures	3	0	8
MT2023	Advertising Design	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
AD2011	Innovation, Markets and Technological Development	3	0	8
AV1004	Audiovisual Language and Narrative	3	0	8
EM1005	Entrepreneurship	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
MT2019	Advertising and Interactive Media	3	0	8
MT2024	Persuasive Copywriting	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
AV2006	Media Narrative Design and Production	3	0	8
AV3001	Interactive Media Design and Production	3	0	8
CO3006	Communication and Globalization	3	0	8
HS2005	Citizenship	3	0	8
MT2005	Selling and Sales Management	3	0	8
MT3029	Digital Marketing	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
CR2002	Public Relations	3	0	8
D1025	Media Legislation	3	0	8
MT3030	Internal Marketing	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
VA2012	Topics III	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
HS2006	Applied Ethics	3	0	8
MT3028	Introduction to Professional Development	2	0	2
MT3031	Integrated Advertising Project	3	0	8
MT3032	Branding	3	0	8
VA2013	Topics IV	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

B.A. Organizational Psychology (LPO)

Graduates from this program are specialists in human talent development. Their training in organizational behavioral science enables them to participate in human capital planning, development and management processes, acting as agents of organizational change.

Competencies for Graduates:

- Design and implement programs to attract and select the best talent for the organization.
- Implement human talent and potential training and development strategies and programs based on strategic and competency models for the different organizational levels, taking cultural diversity into consideration.
- Conduct performance evaluation systems in multidimensional and multicultural settings based on ethical criteria.
- Participate in the development of work teams to promote social responsibility actions within the organization.
- Use qualitative and technological tools to formulate business strategies.

LPO B.A. Organizational Psychology
Edition 2011

Remedial Semester		C	L	U
H1001	Remedial English I	5	0	8
H1002	Remedial English II	5	0	8
H1003	Remedial English III	5	0	8
H1004	Remedial English IV	5	0	8
H1005	Remedial English V	5	0	8
H1015	Spanish Composition	5	0	8
MA1001	Introduction to Mathematics	6	0	16
TC1001	Introduction to Computer Science	3	0	8
		39	**0**	**72**

First Semester		C	L	U
AD1005	Management and Business Model Innovation	3	0	8
CC1010	Human Development	3	0	8
CC1014	Psychology	3	0	8
CC1015	Introduction to the Organizational Psychology Academic Program	3	0	4
H1016	Foreign Language	5	0	8
H1040	Analysis and Verbal Expression	5	0	8
TI1012	Business Information Technology	3	0	8
		25	**0**	**52**

Second Semester		C	L	U
AD1006	Organizational Learning and Knowledge Management	3	0	8
CC1011	Personality Development	3	0	8
CC1012	Psychology and Multicultural Environment Leadership	3	0	8
D1021	Business Law	3	0	8
H1018	Ethics, Self and Society	3	0	8
MA1016	Mathematics I	3	0	8
		18	**0**	**48**

Third Semester		C	L	U
CC1013	Behavioral Analysis and Cognitive Learning	3	0	8
CC2009	Psychopathology	3	0	8
CO2004	Qualitative Research Methods	3	0	8
FZ1005	Financial Mathematics	3	0	8
MT1003	Marketing and Creativity	3	0	8
RI1004	International Politics	3	0	8
		18	**0**	**48**

Fourth Semester		C	L	U
CC2010	Psychometrics I	3	0	8
CD1003	Statistical Methods for Decision Making	3	0	8
CO2003	Quantitative Social Research Methods	3	0	8
H2001	Verbal Expression in the Workplace	3	0	8
HS2000	Humanities and Fine Arts	3	0	8
NI1001	Enterprise, Culture and Business in The World	3	0	8
		18	**0**	**48**

Fifth Semester		C	L	U
CC2011	Group Dynamics	3	0	8
CC2012	Scale Design	3	0	8
CC2013	Psychometrics II	3	0	8
CC2014	Interview Workshop	3	0	8
CD2006	Forecasting for Decision Making	3	0	8
CF1010	Accounting and Cost Management	3	0	8
		18	**0**	**48**

Sixth Semester		C	L	U
AD2011	Innovation, Markets and Technological Development	3	0	8
D1002	Labor Law	3	0	8
EM1005	Entrepreneurship	3	0	8
FZ1006	Personal and Business Finance	3	0	8
NI1002	Negotiation Techniques and International Trade	3	0	8
RH3012	Human Capital Attraction and Retention	3	0	8
		18	**0**	**48**

Seventh Semester		C	L	U
CF2018	Strategic Information Systems	3	0	8
CH2006	Corporate Learning Management	3	0	8
HS2005	Citizenship	3	0	8
RH3013	Performance Evaluation	3	0	8
VA2010	Topics I	3	0	8
VA2011	Topics II	3	0	8
		18	**0**	**48**

Eighth Semester		C	L	U
CH2007	Human Capital Management by Competencies	3	0	8
RH3014	Industrial Security and Labor Relations	3	0	8
RH3015	Management Compensations	3	0	8
RH3016	Organizational Development I	3	0	8
VA2012	Topics III	3	0	8
VA2013	Topics IV	3	0	8
		18	**0**	**48**

Ninth Semester		C	L	U
AD3024	Planning, Innovation and Strategic Sustainability	3	0	8
CC3001	Introduction to Professional Development	2	0	2
HS2006	Applied Ethics	3	0	8
RH3017	Organizational Development II	3	0	8
RH3018	Strategic Management of Human Resources	3	0	8
VA2014	Topics V	3	0	8
VA2015	Topics VI	3	0	8
		20	**0**	**50**

C Number of class hours per week

L Number of laboratory hours or activities per week

U Study hours that must be dedicated to the course (class hours included)

Course content by academic discipline

The description of the courses for all the undergraduate programs offers at Tecnologico de Monterrey is available in the Academic Vice-Rectory official web site.
(http://sitios.itesm.mx/va/planes_de_estudio/catalogos.htm)

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