

2009

**Catalog of Undergraduate
and Graduate Programs**



Index

Introduction

Mission

System of Values and Code of Honor

Humanism Program

Educational Model

Characteristics of the Education at CETYS

Curricular Design

The Graduates' Profile

2010 Plan

Financial Model

Campus

What distinguishes us as an Educational Institution

Student Exchange Programs

 National Programs

 International Programs

 Double Diploma

Comprehensive Education

Our Educational Offerings

Admissions Process

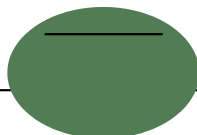
 Admissions Exam

 Pre-registrations

 Equivalence and Transfers

 Financial Aid

Criteria used in the Admissions Process



Index

Institutional Organization Chart

Programs and Curricular maps

College of Business Administration

Course Description:

International Public Accounting

Bachelor of Arts in Business Administration

Bachelor of Arts in International Business

Bachelor of Arts in Marketing Administration

Bachelor of Arts in Bachelor of Arts in Service Management

Bachelor of Arts in Law

Bachelor of Arts in Graphic Design

Master's Degree in Business Administration

Master's Degree in International Corporate Law

College of Engineering and Basic Sciences

Course Description:

Computer Science Engineering

Electronic Cybernetics Engineering

Industrial Engineering

Digital Graphic Design Engineering

Mechatronics Engineering

Mechanical Engineering

Software Engineering

Master's Degree in Science

Index

College of Humanities

Course Description:

Bachelor of Arts in Psychology

Bachelor of Arts in Education Science

Master's Degree in Psychology

Master's Degree in Education

MEXICALI:

CETYS Blvd. Colonia Rivera
PO Box 3-797
PO Box 2808 Calexico, Ca. 92231
PO Box 8513 Calexico, Ca. 92231
Phone (01 686) 567-37-00 y 567-37-35
Fax (01 686) 565-02-41
<http://www.mxl.cetys.mx>

TIJUANA:

CETYS Universidad Ave.
Zip Code 22550
PO Box 4012
Phone (01 664) 903-18-00
Fax (01 664) 625-39-51
<http://www.tij.cetys.mx>

ENSENADA:

Camino Microondas, Colonia Moderna
PO Box 2727
Phone (01 646) 174-42-20 / 4-42-22
Fax (01 646) 174-42-44
<http://www.ens.cetys.mx>

Introduction

CETYS University is an educational institution of excellence, located in the state of Baja California, Mexico. Born in 1961 and sponsored by a group of visionary businessmen, who thought of quality education in this blooming border state.

Nowadays, CETYS University offers college courses and graduate studies in the areas of Business Administration, Engineering and Humanities, as well as general and international high school in its Mexicali, Tijuana and Ensenada campuses.

Con un marcado carácter humanista, el CETYS Universidad busca, tal y como lo establece en su misión, "contribuir a la formación de personas con la capacidad moral e intelectual necesarias para participar en forma importante en el mejoramiento económico, social y cultural del país".

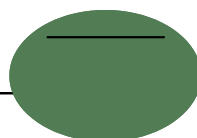
Actualmente está catalogada como una de las mejores universidades del país. Además está acreditada por organismos supervisores de la calidad académica, como la Federación de Instituciones Mexicanas Particulares de Educación Superior (FIMPES).

CETYS Universidad es una Institución particular privada que opera con **Reconocimiento de Validez Oficial de Estudios** (REVOE) amparada en dos acuerdos globales:

- Acuerdo 21414 emitido por la Secretaría de Educación Pública (SEP), a nivel Federal y publicado en el Diario Oficial el 26 de Diciembre de 1974. Este acuerdo autoriza al CETYS Universidad a ofrecer cualquier programa de los niveles Técnico, Bachillerato, Profesional y Postgrado en cualquier parte del país y bajo cualquier modalidad.
- Acuerdo s/n emitido por la Secretaría de Educación y Bienestar Social (SEBS) del Gobierno del Estado y publicado en el periódico oficial del Estado de Baja California el 10 de Octubre de 1983. Este acuerdo otorga al CETYS Universidad las mismas posibilidades que el 21414 de la federación, sólo que a nivel Baja California.

CETYS Universidad puede, por lo tanto, amparar los programas que ofrece en cualquiera de los dos acuerdos, de hecho actualmente tenemos algunos programas reconocidos por la SEBS y otros por SEP, en todos los casos, además del acuerdo general, existe un reconocimiento particular por escrito para cada carrera, programa y plan de estudios que se ofrece en cada ciudad.

El CETYS Universidad cuenta con los nombramientos de "Institución con alto nivel de calidad académica" (1988) y la categoría de Institución de Excelencia" (1995) por parte del Secretario de Educación Pública de México y del Gobernador del Estado de Baja California respectivamente, en reconocimiento a su alta calidad académica.



Como una institución educativa consciente de la importancia que tienen las relaciones con otros organismos educativos, El CETYS Universidad pertenece a:

- IAU:** Asociación Internacional de Universidades.
- UDUAL:** Unión de Universidades de América Latina.
- ANUIES:** Asociación Nacional de Universidades e Instituciones de Educación Superior.
- FIMPES:** Federación de Instituciones Mexicanas Particulares de Educación Superior.
- ANFEI:** Asociación Nacional de Facultades y Escuelas de Ingeniería.
- ANFECA:** Asociación Nacional de Facultades y Escuelas de Contabilidad y Administración.
- CNEIP:** Consejo Nacional para la Enseñanza e investigación en Psicología.
- IAUP:** Asociación Internacional de Presidentes de Universidades
- CONAHEC:** Consorcio para la colaboración en la Educación Superior de Norteamérica
- OUI:** Organización Interamericana de Universidades.
- CEED:** Consorcio Internacional para el Desarrollo Económico y Educativo
- AGB:** Asociación de Juntas de Gobierno de Universidades.

Misión y Filosofía

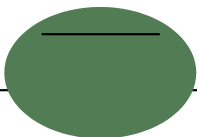
The CETYS mission is the document that rules all programs and activities held in the Institution; normative principles and the CETYS Educational Philosophy are stated in it.

It is now presented as follows, as it was approved by IENAC in 1977:

The purpose of Centro de Enseñanza Técnica y Superior is to contribute towards the development of individuals with the necessary moral and intellectual character to participate in a prominent way in the economic, social and cultural advancement of Mexico. CETYS seeks to create in the conscience of its students, an indestructible set of values traditionally considered essential for mankind to live peacefully in society while also satisfying the needs that their work abilities allow. Therefore, CETYS systematically promotes:

- **Character Building:** Promoting the assimilation of norms of conduct and the acquisition of habits that concur for success as individuals, through a proper use of freedom and in a harmonious and truly human performance throughout the Social Community.

A CETYS graduate must have the conviction that duties are to be fulfilled; that truth is not the exclusive property of any person, but must be sought by all; that kindness is a natural attribute of every living being; and that a person's intelligence must not be used against mankind, given that even though intelligence and knowledge are essential, little is achieved by a person within a society without tenacity of purpose, because courage and audacity are also determinant complements in the fulfillment of the self imposed goals of an individual; that the idea of freedom must be understood by the majority so that it can be attained; that earning the respect of the community must be every individual's goal, but cannot be achieved without first conquering one's self-respect, through honesty in giving and receiving.

- **General cultural development:** Guiding students towards personal growth, based on creativity and the notion of continuous learning, thereby providing guidance and prosperity fellow individuals.
 - **Scientific formation:** Preparing students to objectively understand the world around them and to guide them in practical life, in such a way that they can find objective solutions to problems that they might have as individuals and professionals in social, political and economic areas.
-
- 

CETYS justifies its existence by pursuing excellence supported on the values previously mentioned and through three fundamental functions: Teaching, research, and cultural extension.

- **Teaching:** Developing programs at Technical, High School, Undergraduate, Continuous Education and Graduate levels.

For the accomplishment of its teaching activities, CETYS' commitment is that all the professoriate be highly prepared in their area of expertise, with a strong sense of self-improvement, and not only convinced of the social principles previously mentioned, but also able of transmitting them to all their students.

- **Research:** Focusing on the study of its own educational problems, as well as by identifying the human resource needs of the community and thereby establishing educational offerings that will help satisfy these needs; through special programs and projects, CETYS will promote research in the specific fields of study of professors.
- **Cultural Extension:** Seeking, within its possibilities, to systematically disseminate, preserve and promote:
 - Artistic and cultural expressions;
 - Scientific knowledge;
 - Bibliographic resources, laboratories, and everything that allows the preservation and enhancement of cultural heritage.

Code of Honor

The members of the CETYS University community composed by students, faculty, employees and officers, are firmly committed to our institution's mission of "contributing to the development of individuals with the necessary moral and intellectual capacity to participate in an important manner in the economic, social and cultural improvement of the nation. Consequently, CETYS University seeks to make indestructible in the conscience of its students, the values that have traditionally been considered as basic so that man may live peacefully in society and satisfy the needs that his labor capacity allows him." Therefore, we deem it important to have a Code of Honor that inspires and reflects the behavior ideals of our decisions and daily actions and that, at the same time, will constitute a frame of reference and recognition for those of us forming part of our institution.

Based on its mission, CETYS University systematically promotes among its students character development, cultural development, scientific development and fulfillment of ethical demands that lead to motivate them in attaining the realization of their own life and professional projects, guided by the following principles:

- The principal protagonist in the educational process is the student; therefore, he/she is the primary responsible party for his/her own education.
- All students should rule themselves by a code of conduct that leads to being a better person so as to achieve and generate social well being.
- Respect for the moral demands that we, the members of the CETYS University community, recognize as fundamental values in our institution: Liberty, Justice, Truth, Beauty, Goodness and Spirituality.

We aspire for every one of the students of our educational community, autonomously, to assume the commitment to all of his/her actions, both inside as well as outside the institution, to practice these fundamental values so as to favor the enrichment of our institution's human interactions and in this manner, contribute to the ethical development of the society we constitute.

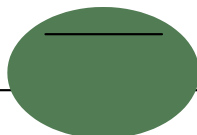
By code of honor, we understand joint actions of well being and well doing leading a person to live with dignity. Honorableness is one of the fundamental assets of social life, and living its inherent values is a necessary condition for a healthy and peaceful coexistence of the individual with him/herself and others.

Specifically, we aspire for the students to accept CETYS University's mission, and to live in conformity with the Institution's fundamental Values System, and with its related values, engaging in the following

COMMITMENTS TO:

JUSTICE:

- Make decisions objectively and impartially, setting the common welfare before the personal one.
- Give everyone their due while avoiding unduly benefits



- Distribute tasks fairly, as well as available resources, considering the people's needs, capabilities, and performance.
- Acknowledge others' merits and achievements.

HONESTY:

- Tell the truth at all times, even and when personal interests are at risk.
- Avoid using others' work or efforts to outstand, or hide one's incapability or lack of determination in daily activities or to unduly obtain benefit.
- Avoid the illegitimate obtaining of exams, such as copying or facilitation of copies, plagiarism or presentation of others' work as their own, and in general, all lack of intellectual honesty.
- Refrain from altering or forging school documents or the conscious use of fraudulent documents.
- Acknowledge author's rights by rigorously developing academic work.
- Refrain from organizing activities that lead to raising funds or obtaining donations, services or benefits, without previous authorization of the educational authorities.

RESPECT:

- Live with openness and tolerance towards our fellow mates, accepting gender, ideological, cultural, economical, and all other differences.
- Use a communication style that denotes courtesy, respect and sensitivity towards others.
- Respect the education community members' physical and moral integrity and refrain from making comments that defame their integrity.
- Respect personal and others' ideas, religious beliefs, customs, traditions, and points of view, thus valuing the richness provided by diversity.
- Show due respect to our institution's symbols and patriotic symbols.
- Avoid using the institution's name or emblem without written authorization from education authorities.
- Appreciate nature and acknowledge us as part of it.
- Promote environmental preservation in all activities.

RESPONSIBILITY:

- Know and comply with the ethical demands of this Code of Honor, the dispositions stated in the By-laws and the Regulations derived from it, as well as the institutional policies and the resolutions issued by educational authorities.
- Meet the academic and administrative commitments acquired with the institution, with quality and in time.
- Participate actively in professional training.
- Care for and respect the institution's assets and use its resources, facilities and equipment according to applicable rules.
- Seek intellectual development and physical and emotional health.
- Refrain from attending the university campus drunk or under the influence of any narcotic, psychotropic or inhalant.

- Refrain from taking, using, selling, providing or offering free alcoholic beverages or substances considered by law as narcotic or psychotropic to others or any other substance that may produce similar effects in an individual's behavior.

LIBERTY:

- Assume our freedom responsibly by carefully analyzing, before choosing, the consequences or implications the course of our actions may bring.
- Choose what humanizes us and reject what impoverishes us as human beings.
- Support the right to the free expression of ideas, lifestyles and religious beliefs, as long as they are given within the respect of others' liberties and rights.
- Refrain from carrying weapons of any kind within the institution's compound.

EQUALITY:

- Consider that the personal, professional and occupational development activities of our institution's members constitute a right that equally corresponds to us all.
- Acknowledge we are all equal in dignity and rights, and therefore, we consider important the fair treatment in our daily relations and activities.
- Observe the laws and dispositions of public order that rule our social life, without expecting a preferential treatment.

Humanism Program

The Program

An endeavor on the part of the institution accomplished by a globalized, planned, programmed and structured process involving: board members, directors, faculty, students, different services personnel, parents, programs, and, in a certain way, society.

Specifically, the Humanism Program represents a process of change in different levels and areas in the way of conceiving, making and being CETYS as an institution, CETYS as an educational community, CETYS as a university.

This change does not go by the CETYS Mission, Educational Philosophy, and Objectives –it must be clearly stated- nor it is a misrepresentation of them, but it resumes the purest and genuine spirit of the philosophy which initiated CETYS in the beginning and is now seeking the way to crystallize it through a reinigorated effort, a more committed and lucid one.

Nor is it a new or different way to accomplish its educational task. It seeks to go beyond the forms and modes.

It is a reenounter with what's fundamental, the depth, the content, in a word, with the being itself, since humanism is to discuss values, whose point of departure and arrival is the central value: the man, the person. Humanism in education is to talk about anthropocentrism in its purest and most rigorous expressions. Some of the most significant implications are stated as follows:

The Pupils

This becomes, ipso facto, the origin, the center, and the end of the education process; it is about PAIDOCENTRISMO, which is the knowledge, methods, theories, programs, curriculum, activities, etc, centered in the student, and it makes sense while being issued. The student is the main character, which is opposed to the idea that conceives him as an object, as a product; the student is the operating subject, someone who is selftrained by all the intervening elements.

From this perspective, the educational process is not only originated and realized in the pupil, but it is the purpose of all the elements intervening in the process.

The Faculty

One of the biggest challenges for the institution's success is represented by the Instructor's involvement, since not only work rests upon his shoulders, but because they represent, in some cases, a change in the mindset and attitude regarding the teaching process and the relation with the pupil.

Traditionally, the instructor has been considered as the main character in the educational process. They have been, for many years, the artifice that creates work among pupils. This figure, as romantic as it may seem, involves an impoverishing approach of the pupil that is seen as raw matter, passive, ductile and malleable before the Instructor's action.

In education's humanist perspective, the instructor's assuming leadership role loses its meaning and effect before paidocentrismo fostered by authentic humanism, fundamented and inspired in the person.

Thus, the Instructor becomes an adjuvant, a promotor, a facilitator, a server within the educational process given in and for the pupil.

Therefore, the emphasis could not be more than what is communicated, transmitted, or informed, but about the capability of providing, promoting, encouraging, and contributing to the educational process of the active or central subject, that is, students.

This does not underestimate or limits the knowledge and experiences of the instructor, it just highlights the fact that such richness is not justified in itself and that it reaches its real dimension when serving pupils, when its purpose is the pupil himself. Under this view, the deeper and greater the richness, the better the service for pupils.

The acceptance of a role, which instructors have not been invited to, involves an authentic METANOIA (change of mindset) certainly difficult to accept. Fortunately, this change has been given within the educational field in our country for some time, however not without the normal and natural resistance in these cases.

It is of vital importance to highlight the traditional binomial: instructor-student, as a total element of the education process is still valid and active. The humanist focus does not alter the essence of this interpersonal relation, even more, it strengthens it and revitalizes it as the instructor's fundamental value rests upon his person than upon his resume. The priorities that pupils must have are sought to be reinstated –not in terms of status, but according to priorities which are finally inherent regarding their means- on any incidental factor of their education, including instructors, who place their knowledge, experiences, skills, etc. to the service of pupils.

The Programs and Curriculum

No person ignores the fundamental and decisive role that the curriculum plays in forming the graduates profile. This has been, and shall continue to be their *raison d'être*, but not entirely.

That is, continue considering the curriculum (with its programs, methods, activities, assessments, etc.) as an instrument to “produce” professionals and technicians in the manner of “consumer goods” according to the market's demand prevailing at the moment, ignoring the human being behind every professional and technician, is to invalidate and degenerate the process and purpose of education. The programs and curriculum, parting from their definition, planning, programming, and implementation, must consider profiles as well as human beings, people.

Turning programs and curriculum into a reflection, in passive and submissive response to orders, caprices, and whims proper of a market -with the excuse of “development” and “progress”- which is only interested in the graduates' technical-professional quality, thus sacrificing human quality, is to allow that Universities resign to their authentic role and, much worse, betray their genuine vocation and noble mission.

Let us remember and highlight here what was clearly and forthright stated in previous pages: The University should reconcile and unite the immanence (in order to always be a valid response for its here and now) with its transcendence (assure its validity for the future, while being faithful to its real vocation and mission).

While trying to transcribe this in the curriculum in a graphic way, along with its implications, we would say that it shapes or helps to shape a superstructure (graduates' profile) which not only rests, but is vitally integrated in a fundamental structure, permanent and irreplaceable: the human being

that underlies in the graduate. Therefore, the authentic validity and efficacy of a curriculum is to harmonize and contribute in the achievement of these two objectives (not parallel or superimposed, but integrated and complementary): shape the professional and technician just as men are being shaped.

About the Board, the Office of the President, and the Directors.

The Board

Composed of a college body, it is the maximum authority that sets courses, establishes policies, and makes transcendental decisions in the life and operations of CETYS; it is imperative that it internalizes from the meaning, scopes, and especially the implications that the Humanism Program leads in CETYS.

It is known that this program had already been set as an immediate priority, it only lacked the how to. This document intends to consider it.

The Office of the President and Directors.

Generalized dehumanisation as an essential and more dramatic characteristic of current technological societies, is a fact passed on to universities, making them training and entertainment centers to “produce” scientifically and technically highly skilled professionals, although impoverished as human beings. Highly industrialized countries were an example to be followed, whose efficacy in maximum production and consumption is far from progress in favor of the wellbeing of human communities. This success became not only relative but deeply questionable.

Universities, made in the image and likeness of technological societies, came to encrypt and assess their effectiveness in the production of “useful, but not necessarily valuable elements”, hence, its also relative and questionable success.

On the other hand, it is clear that the one formula: science + technique has not been the magical or infallible key to generate a true development in societies; the inclusion of men is essential (with his dignity, liberty, transcendence, and happiness) as the origin and ultimate goal of science, techniques, and economical progress.

Before this unflattering view far from a hopeful future, the Directors at CETYS think imperative the need for the return of men as the beginning and end that justifies their genuine university tasks as well as their humanizing vocation and mission, for this is the only way that graduates could aspire to become in generators, providers, and artifices of social welfare, which is not and cannot be a privilege of a few, but a universal aspiration and right. Furthermore, this demand becomes a need for consistency between what is and should be, between the mission and society’s permanent response.

Administrative and Service Personnel

If we are to be consistent with what we pretend, all individuals at CETYS must be contemplated for this humanizing process. Hence, for the way of thinking, all actions at CETYS must always be before and above all, people, and after the function or work of people. In other words, all workers, regardless of the work or function performed, are above all, identical people in dignity, rights, and obligations. At CETYS, there cannot be first class or second class people simply because some have more knowledge, culture, money, economical position, status, etc., than others.

The Parents

The education community, conceived as “stricto sensu”, necessarily implies the pupils’ parents. If it is true that integration usually occurs, actually more naturally and easily with parents of pupils who are in levels below college studies, it does not prevent the humanizing process filter down to them. This will be explicitly and concretely explained when considering the know how. It suffices for now to point out that the simple pragmatic consideration of parents being informed on what is being done with their educational investment, justifies the fact that they at least know the implications of the humanism program.

As an educational model, the one from CETYS has three components: **philosophical principles, teaching principles, and characteristics.**

Educational Model

The educational model has three essential components: philosophical principles, teaching principles, and characteristics.

PHILOSOPHICAL PRINCIPLES

They determine the kind of person it wants to form. In this case, education has the dimension of a process clearly intentioned towards the integral formation, and it is explicit and detailed in CETYS' Mission.

TEACHING PRINCIPLES

They define the way the educational process is carried out:

1. Learn to learn

Skill that the student manifests to identify and manage cognitive goals and strategies that take him to acquire new knowledge, skills, and competencies in an autonomous, independent, and self-regulated way.

Observable behavior in the student:

- Identify and manage his learning processes (cognitive goal level).
- Shows pertinent strategies in every situation.
- Designs and carries out his own work plan adapting it to every situation.
- Grasps the homework's demands, and responds consistently to them.
- Examines and values his own fulfillments identifying good judgments and correcting mistakes.
- Makes inferences and generates deductions.
- Transfers ideas and contents from one ambit to the other.

2. Learns skills and dexterities

Behavior that the student shows to acquire and develop functional competencies based in the application and abstraction of the achieved knowledge for the solution and formulation of any kind of problems, be it in an individual way or in a group.

Observable behavior in the student:

- Shows interest in finding application to the knowledge.
- Applies knowledge through a project or laboratory practice.
- Identifies and formulates problems.

- Identifies and builds solutions to the problems gathering all the proper instruments.
- Generates applications to the concepts outside of their natural realm.
- Creates and concludes alternative solutions to problems of different nature.
- Carries out procedures and methodologies properly.
- Uses tools in an appropriate way.

3. Learn knowledge

A skill that shows students to acquire, manage, and process all possible forms of knowledge that continually goes from the most general, to the most specific, and that enables him to relate and discover knowledge based on the one already possessed in order to understand his surrounding world.

- Observable behavior in the student:
- Builds, rebuilds and communicates knowledge in his own words.
- Establishes relations between areas of knowledge.
- Identifies, describes, and applies methods and procedures to generate new knowledge or lines of investigation.
- Makes documental and field research, where objective and rational conclusions are derived.
- Compares and assesses areas of knowledge.

4. Learn to coexist

It is an observable and permanent behavior in the student in a community or group context where tolerance, equity, and justice must exist in a framework of reciprocal comprehension to achieve the goals. All this through common projects where inter-dependence must be a fundamental characteristic trait.

Observable behavior in the student:

- Shows team work disposition inside and outside of the academic realm.
- Expresses his opinions freely.
- Shows an open mind towards criticism.
- Shows feedback, expands and answers back with knowledge and respect.
- Reaches agreements and establishes consensus.
- Respects established agreements and consensus.
- Manifests solidarity and commitment towards the achievement of common goals.
- Tries to keep the team's integrity.
- Identifies the basic elements of team work.

5. Learn to be and to be well

A permanent search form the student in his interaction with the surroundings to discover himself as a person, and to build his individuality and develop his autonomy through the thoughts and the identification of his values that should be in harmony with the world that surrounds him.

Observable behavior in the student:

- Shows a critical and autonomous thought.
- Shows congruence between what he says and what he does.
- Develops his own judgments.
- Shows sensibility to the arts in its different manifestations.
- Is conscious of the importance of his acts.
- Searches for the equilibrium in all the aspects of his person (body, mind, and spirit).
- Identifies his scale of values.
- Identifies values and counter values in people.
- Takes decisions in a personal basis and assumes responsibilities.
- Shows sensibility before the favorable and unfavorable situations of his fellow human beings.
- Shows disposition towards community work.

CHARACTERISICS OF THE CETYS EDUCATION__

They are the distinctive elements that the Institution pretends to promote in a stronger way during a specific period, and its main frame of reference is the institutional philosophy as well as the teaching principles. More than anything else, the characteristics must be clearly seen in the design of the study plans.

Starting from the premise that every student at CETYS must be part of a culture where values are promoted and lived, and where a culture of investigation exists; consequently, a culture of information and the development of skills and dexterities.

The characteristics of the college programs that will operate starting August of 2004 are:

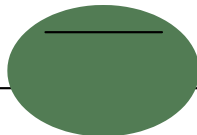
- Enterprising attitude
- Work and social connection
- Continuous improvement
- Internationalization

1. *Enterprising attitude.* Throughout the training, it is the object that the student is able to design, organize, and direct the projects where he can risk creativity, inventiveness, and the capacity of innovation that will take him to make decisions and to undertake tasks, actions, and programs with the required success.

2. *Work and social connection.* It is the development of the enterprising attitude put under the service of its connection to the outside. The working connection through two or more specific subjects will allow him to know the work force, to understand its dynamics, and to strengthen its security and sense of responsibility. Social connection will keep its social values, in particular justice and good, also linked to two subjects identified as humanistic. It also strengthens learning to coexist and learning to be himself.

3. *Continuous improvement.* It is an attitude, a form, a commitment, and a way of life. Always try to do things in a better way; evaluate and get a feedback of what has been done to be always better.

4. *Internationalization.* A characteristic is consolidated with these new study plans. We understand to consolidate as to keep doing what we are currently carrying out, and to increase the path of internationalization towards other actions. One guideline gives consistency to this tint: there cannot be a graduate from CETYS if he or she did not have a previous international experience of any kind: subjects given in English, exchange student, summer visits, double diplomas, etc.



The instructor's figure with a humanist profile is a central element in the Educational Model at CETYS, thus allowing it to perform as a catalyst, as support that encourages students to develop their human potential fully, centering the educational process in students.

These characteristics are reflected upon the following programs:

- English language learning and exchange programs
- Social service and professional practice
- Entrepreneurs
- Course designs

ENTREPRENEURIAL PROGRAM

Undertaking is an attitude, a quality that must be induced in young people so a corporate culture emerges from them. Encouraging an entrepreneurial spirit is a strategy and a characteristic that the CETYS University System has long pursued, proof of it is the link with departments and institutions that support this field, among which stand out: DESEM (Mexican Corporate Development, 1979), EmpreSer de Mexico (2004), and Endeavor (2007).

In order to establish a structure that supports the young people in developing their entrepreneurial spirit combined to promoting corporate attitudes and skills, in August 2004 the Entrepreneurial Program began operations, directed by the visionary Dr. Helia Cantellano. Currently, this program is based on the philosophy of regional development, that is why in 2007 the Entrepreneurial and Economical Development Center from the CETYS University System was created.

This center is divided in three areas: the first one is called Pre-Incubation, which fosters an entrepreneurial spirit, developing corporate attitudes and skills in the young people, in a curricular way, under the auspice of Junior Achievement (IMPULSA). The second area is called Incubation, whose objective is to develop companies based on business ideas under the auspice of EmpreSer de Mexico, in Mexicali, CAE Entrepreneur in Tijuana, and PlanCreceer from Coparmex in Ensenada. Finally, the third area projects the support to existant businesspeople, with advising services from the SBDC center and business acceleration services from the Endeavor center.

THE FACULTY

The faculty at CETYS is an essential element to make the educational model centered on the learner. Due to its complexity and intensity, the faculty must be prepared beyond knowing the content of the course to be taught. In that sense, the faculty must be capable of diversifying their work strategies and the ways to assess learning. Additionally, given the philosophy upon which the model rests, they must prove attitudes, qualities, and skills that encourage the system of values.

The CETYS System counts on the Faculty Integral Development Program which intends to develop precisely those capabilities in the faculty. The program is composed of a series of actions that lead the CETYS Instructor to understand, improve, and commit to his professional practice and to the institutional philosophy. It is called integral because it comprises four areas: faculty training, professional training, cultural and human training, and health and sports promotion.

In general in the CETYS System, just as in previous years, introduction to instructors is still being promoted: the Diploma Course in Learning-Centered Education, the Master's Degree in Education, and the courses for using electronic means, particularly, the Blackboard platform.

Articulated curriculum design

The curriculum design of the programs in CETYS University proposes the following:

- STANDARDIZED PROGRAMS
 - All college programs have 42 courses
 - All majors are 8 semesters long

- REDESIGNED COURSE PROGRAMS IN CETYS ELECTRONIC FORMAT
 - All programs contain the same structure
 - This structure ensures that the teaching principles and the education characteristics are met.

- INSTRUCTORS' WORK INCLUDES ELECTRONIC MEANS AND DIDACTIC INNOVATION
 - Educational technology is a present means in the greater part of the college and graduate studies programs.

The Graduates' Profile at CETYS University

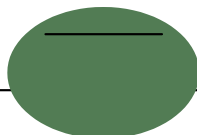
The student's generic profile at CETYS, coherent with the MISSION, the educational model and with all the institutional characteristics, synthetizes those characteristics that the graduates must have in ALL programs offered at CETYS.

VALUE QUALITIES

- Honesty
- Responsibility
- Commitment and social solidarity
- Commitment to sustainable development
- Respect to one self, to others, and to nature
- Capability of service
- Awareness of liberty
- Sensitivity for justice
- Awareness of truth
- Culture of work and effort
- Appreciation and respect for culture
- Honor
- Perseverance

QUALITIES RELATED TO INTELLECTUAL SKILLS

- Initiative
- Disposition towards criticism
- Creativity and innovation
- Capability of promotion
- Capability of research
- Capability of managing information technologies
- Capability to identify, pose, and solve problems
- Capability to communicate orally and in writing in English and in Spanish
- Have a global vision
- Self-learning and personal success
- Leadership
- Capability to work in teams
- Entrepreneurial attitude
- Updated knowledge in one's area



2010 Plan

From its foundation in 1961, CETYS University has normed its development based on six principles:

- A mission rate to achieve
- A conception of academic quality
- Commitment from the community
- Commitment to the community
- The expansion of opportunities of access to higher education, and
- A planning tending to rationalize the future course of the institution

On the threshold of this new century, before a world environment characterized by deep and trascendental changes that are transforming the life of universities, IENAC approved in January 2001 the 2010 CETYS Plan, thus contemplating the long term, but working in short cycles of one year. The 2010 CETYS Plan keeps the CETYS mission, vision, and educational model solid, since they are the key factors and distinctive elements of the Institution.

To talk about the 2010 CETYS Plan in the years 2006-2010, is to talk about a group of challenges and pledges; is to state clearly a definition the size of each Campus; to work on the differentiating factors; to strengthen the educational model, giving more importance to student learning; to strengthen the characteristics of the education at CETYS; strengthen marketing and quality as a way of making CETYS; to seek the strengthening of internal and external sources to gather resources. All these actions are integrated in a group of strategic programs with an optimum use of resources, thus, using fully internal capacities.

In this effort of the 2010 CETYS Plan for the years 2006-2010, the human element is and will continue being the base of change. A human resource and an administration focused more on a culture of evidence and outcomes, with systems to assess performance in all levels; directors, faculty, administrative and services personnel, with an agile and functional organization, supported in a system of indicators that allow us to reach the goals set.

The 2010 Plan has three great strategic lines:

1. Strengthening of its educational model

The beginning and the end is the person and the humanization process. The model reflects on the idea that through education, we are born to the world, and in a straightforward way, the dimension of time makes sense to the students. This is why general culture as well as the specific knowledge and skills and abilities that lead us to learn to learn and to learn to do are present as an unmistakable sign of intelligence. In the same token, the model fosters personality, congruence, imagination, and creativity that seek to take the student to establish social coexistent relationships.

Intentionally, the model's nuances lead the development towards aspects that define the profile of today's professionals and their immediate future. He or she develops in a continuous improvement atmosphere, a working and social linkage, with an entrepreneurship spirit, and internationalization framework.

In essence, the model sets the basis so the student can recognize himself, can generate a life project, and can exercise his civic role in a social surrounding.

2. Consolidation and growth of the student population

The institutional model would not be valid without a capable, interested, and convinced student of the education the institution gives. It is a reality and a challenge to grow to make more CETYS. This line seeks to develop more and better strategies so the institution can travel its frontiers and opens the space for those students that don't have enough economic resources, but they do possess the high-level academic conditions to enroll and to stay in CETYS. That includes students from the State, from other parts of the country, and from the United States.

3. Keep healthy finances

The development of the educational model and the enrollment access to the institution should be given in an atmosphere of healthy finances. This must grant safety and a working space that is trustworthy for the development of institutional projects; where income can arrive through different sources and that savings can be achieved based on a high competitive administration.

THE FINANCIAL MODEL OF CETYS

1. CETYS University is a non-profit private institution. It grows and develops thanks to the auspice of IENAC -*Instituto Educativo del Noroeste, A.C.* and the community.
2. As a Civil Association, IENAC contributes and manages, through the Board, donations, support, and resources that CETYS needs to operate an educational model like the one that distinguishes it; it comes up to the best Universities in Mexico.
3. CETYS, then, operates by a model in which its tuition, even when perceived as a high one, barely covers and almost exactly, its operation costs. With this model, the growth, the building of new facilities, and equipment is financed with donations and support from the community.
4. The operation's remnants, which are usually 5%, is reinvested directly in faculty infrastructure, teaching technology, scholarships, and financial aid programs. IENAC's by-laws clearly state (Article 6) that the institution will reinvest all income in the areas before mentioned.
5. The social commitment of CETYS is reflected, among other aspects, in the great investment it makes year after year in the scholarship area. This opens a door to an important number of students with limited economical possibilities to access a first level education.
6. By not receiving public resources and operating as a Civil Association duly regulated by the Tax Administration Service, CETYS University grows to the extent of the economical support received by the community, graduates, etc.

Cost components of universities such as CETYS University:

Instructors + programs + teaching infrastructure (library, laboratories) + technology (internet, videoconferencing) + sports facilities (fields, stadium) + exchange programs + international agreements + linkage services + security + personalized follow up.

Cost components of a commercial institution:

Instructors + classrooms + programs

MEXICO

It is formed by 32 federal entities and is located in North America. It has a population of more than 100 million people who are mostly concentrated in Mexico City. Its territory limits north with the United States and south with Belize and Guatemala, it also has coasts in the Gulf of Mexico and the Pacific Ocean. Mexico has gone through two wars: the Independence in 1810 and the Revolution in 1910, which provided the citizens a very important value: liberty.

According to the information provided by the World Bank, Mexico has achieved the highest gross national income per capita in Latin America, it is therefore considered a country of mid-high income. Its economy is greatly based on the income tourism leaves, year after year they enjoy Mexico's richness in culture, weather, landscape, coasts, gastronomy, as well as the warmth of its people.

BAJA CALIFORNIA

The state of Baja California is located in the northwest corner of Mexico west to the Pacific Ocean, east to the Gulf of California and the entities of Sonora and Arizona, in the United States, south to Baja California Sur, and north to California, in the United States.

Before reaching the category of state in 1953, it was called North Territory of Baja California. Its capital is Mexicali, and together with Tijuana, they are the most populated cities in the state, both located on the border with the United States. In addition to these two cities, Baja California is also formed by Tecate, Ensenada, and Rosarito Beach.

Baja California is distinguished from other entities in the country, for having a high rate of per capita and low level of poverty. In the last years, the maquila industry has been a very important economic detonator for the state, which has become the main maquila receptor in the country. It has more than 700 plants coming mainly from the United States and Asia.

MEXICALI

Mexicali is the capital state of Baja California; agriculture has become an important part of its economy; it is acknowledged for developing agrobusiness in the Mexicali Valley.

Known for its Chinese food restaurants, Mexicali has a great variety of restaurants and leisure centers that offer inhabitants a diversity of flavors and international food. Additionally, it has all the services that a great city needs to do sports and cultural activities.

Campus

The city of Mexicali is the capital of the state of Baja California, Mexico. Located in the northern border of the country, it is a young city founded on March 3, 1903; it was born as the region's cotton center, the largest in the world in its time, to later acquire a denoted industrial vocation, which keeps it a city of momentum, vibrant, full of life.

It is known as "the city that caught the sun", not only because of its characteristic extreme weather, proper of the desert upon which the Mexicali Valley rests, but because of the warmth of its people. City of immigrants, many families that inhabitate it have roots from other parts of the country and the world; a special mention for the Chinese community, which has played an important role in the constitution of the modern Mexicali.

Currently, Mexicali's economical growth is linked to the investments of companies that establish their assembly plants for exportation, mainly to the United States. Some of these companies are: Sony, Daewoo, Mitsubishi, Honeywell and Cardinal Health, Bosch. Mexicali is also home of some food processing plants like Bimbo, Coca-Cola, Pepsi, Sabritas.

Today, Mexicali is a melting pot of cultures, industrial and business center, as well as a source for the Bajacalifornian progress, where CETYS has collaborated for more than 45 years, providing the community with entrepreneurial graduates of high academic quality.

Transportation.

The cheapest means of transportation is buses. Several routes circulate the city, operated by several companies with distinctive colors. The closest route to CETYS University is Valle Dorado's, in yellow and white, which has its stop approximately 200 meters from the main entrance of the campus. For all routes the fare is \$4.50 pesos.

Tip: Some bus companies offer students discounts; students must process a student ID in the offices of each company.

Another common means of transportation are route taxis. They are compact vehicles that circulate in fixed routes; its fare is \$7.00 pesos and they are white with distinctive color stripes. Most taxi and bus routes converge in the center of the city.

Mexicali has no taxis circulating by, but radiotaxis can be found, some of which operate in taxi sites. They are more expensive, but they are a good option when in need of fast and reliable transportation.

Where to go

The city of Mexicali has many attractive sites, as well as in its surroundings. Among them, the most important are:

- The modern and functional Civic Center, host city of the state and city governments, which shelters numerous businesses, hotels, and leisure centers, like Plaza Calafia, emblematic of the city.

Campus

- Plaza Centenario, built to mark the 100th anniversary of Mexicali which bears a monumental flagpole, visible from a great part of the city.
- FEX (Fair and Exhibition Center), where every October Fiestas del Sol are celebrated, and it hosts concerts and events throughout the year.
- The recently remodeled Zoo in Bosque de la Ciudad, which has gardens, a play area and a quiet lake.
- Nido de los Aguilas, host of the “Aguilas” (Eagles) baseball team, which plays in the Mexican Pacific League.
- The State Auditorium, host of sports encounters, artistic and cultural events.
- The Hall of Fame, where local sports personalities are honored.

Shopping

Plaza La Cachanilla, the largest mall, in the city is located just south of the Center of the City. Other malls are Plaza Nuevo Mexicali east of the city, and Plaza Fiesta in the heart of the Civic Center. There are also supermarkets throughout the city, as well as grocery stores and convenience stores.

The very Mexican flea market is present in various parts of the city; of all, the most comfortable is El Caballito, which provides the services of any mall with a centric location.

The visitor must not forget his visa (or process it, in that case) in order to visit Calexico, twin city of Mexicali in the United States, which is often visited by the people of Mexicali to do some shopping; this town has a great number of stores for everybody. Mostly, Calexico is a Hispanic-speaking city.

Even though most businesses in Calexico take pesos, it is recommendable to exchange pesos to dollars for the desired amount, for this, there are numerous money exchange offices in Calexico and Mexicali. Since the exchange rate varies constantly, it is useful to verify the amount of pesos per dollar that will be given in the transaction.

Sports

There are numerous sport city units, out of which two are the most important: Ciudad Deportiva located northeast of the city (not far from CETYS University) and Juventud 2000, in the south. Both have fields for soccer, basketball, and volleyball, a race track, etc. The University of Baja California (UABC) also offers similar facilities, open to the public.

There are private sports clubs, like Bancali and Club Britania, which offer sports like swimming and tennis. A low cost alternative for soccer players is to participate in open soccer tournaments, which have become very popular in the city.

Campus

There are two favorite places for Cachanillas to witness sports: Nido de los Aguilas, where Aguilas de Mexicali, the baseball team, have their home and is located in Ciudad Deportiva; and Plaza Calafia, a meeting place for bullfighting amateurs, located in the Civic Center.

Culture

Numerous cultural points are found in the city, among which stand out:

- Teatro del Estado, considered of great level, which constantly hosts plays and musical presentations
- Museo Universitario, with a wide geological and historical collection
- Galeria de la Ciudad, showcase of local artists

Out of town

Mexicali's surroundings include natural landscapes of great beauty, as well as touristic destinations, comparable in quality to the most popular:

- Laguna Salada, which only remains a dry and saline bed. It is an incomparable landscaping scenery; this quality made it host to the concert held by Luciano Pavarotti, celebrated due to the city's centennial anniversary. It is located east of town.
- Further west is La Rumorosa sierra, it offers visitors an uncommon mountainous view, and locals an escape from high temperatures during summer. Around the homonymous village camps can be found, with all services, where visitors can coexist with nature.
- Around 50 kilometers south of the city is Hardy River, where water sports can be done. There are numerous camps, but the oldest and most traditional is Mosqueda Camp. Nearby, the village El Mayor is located, home to some of the last Cucapah indigenous people, native inhabitants of the Cachanilla land.
- 200 kilometers south, the port and town of San Felipe is found, with a great beachfront on the warm waters of the Gulf of California. It is a preferred spot for American vacationers called "snowbirds".

TIJUANA

Tijuana is located in the northwest corner of the Mexican Republic and borders with the city of San Diego, California. Thanks to its accelerated economical growth, it is nowadays placed as one of the most important cities in the country. It has an ideal weather, the mediterranean type throughout the year, with an average temperature of 21° C.

Campus

In the last years, the city of Tijuana has become a demographic phenomenon due to its best opportunities of life, accomplished by the accelerated growth, where tourism and the maquila industry have a predominant place. It has a current population of more than 2.5 million people.

Tijuana is favored because of its demographic position, it is the most visited city in the state. Its hotel infrastructure, with lodging establishments –Gran turismo, first level five stars, it is ready to meet the most demanding tourists. It has comfortable restaurants where delicious dishes can be tasted, besides numerous places to watch shows, and at night, dance in its sophisticated nightclubs; these attractions complement a pleasant stay in the city.

Some places to visit are: Revolution Ave., where tourists can find varied and abundant handcrafts and amusement. It was in one of these establishments that the international Caesar's Salad was born. On Revolution Ave. there are 486 shops, 36 restaurants, and 35 night clubs. Additionally, there is one of the few places for racquetball: Jai-Alai, where the Basque ballgame is played. A tradition on Revolution Ave. is donkeys painted as zebras, where tourists can ask for a picture, that, together with handcrafts, make a Tijuana souvenir.

A place to visit is Tijuana's Cultural Center, it has a museum, theater-showroom, global cinema (IMAX theater), outdoors theater, exhibition rooms; all built to foster national culture in the northern border and promote the region's cultural development. Tijuana's Cultural Center has one of the four global cinemas existing in Mexico, and one of the 23 theaters built in the world. Its capacity is for 300 people. Projections can be appreciated with an optical display of 180° horizontal degrees and 125° vertical degrees on a domed-shaped screen. It also has restaurants, a book shop, and crafts shop. Tijuana has the famous Agua Caliente Race Course, two bullfighting plazas, two golf courses, besides great shopping malls with the newest national and international production.

Weather

The weather at Tijuana is the subtropical type. Winters are soft and summers pretty warm. The coolest month is January, with an average temperature of 14° C, and the warmest month is August, with temperatures above 29° C. Precipitations are few and irregular (barely 350 millimeters a year), and they mostly occur during winter. In December 1967, brief snowfalling was observed, a very rare phenomenon in town.

Transportation within the City

The city offers several types of public transportation. There are countless calafias (typical red and white buses) by the inhabitants (its origin is due to the first company that used this type of vehicles called Calafia, hence the name). There are also "Teextis", which are also red buses (except those who carry ads on the side).

Campus

There are also two types of taxis:

“Free taxis” are small vehicles transporting a person or family at once; they have no fixed route and they charge according to the distance.

The other type of taxis are called “astros” or “vans”, they are white, yellow, orange, red or green, according to the route followed. They have fixed fees and routes towards different points of the city.

Transportation towards the rest of the Country or the World

Tijuana has an international airport covering dozens of destinations in Mexico, besides having the only non-stop flight to the Asian continent. The General Abelardo L. Rodríguez Airport is just 8 kilometers from the center of the city.

The city also has bus stations with travels to the rest of the peninsula, the United States and different cities of Mexico.

ENSENADA

Known as the “Pacific’s Cinderella”, Ensenada, Baja California, Mexico, is located 70 miles south of the international border with the United States, and a 60 to 90-minute highway drive from the cities of Tijuana, Baja California, Mexico and San Diego, California, in the United States.

Its Mediterranean weather, hospitable environment, and accessibility have made Ensenada a favorite destination among national and foreign visitors, as well as the second most important port for cruiseships in Mexico.

Its history, diversity of microclimates, flora, fauna, natural and cultural beauties, as well as a quiet environment, are just a few of the aspects that make Ensenada the ideal destination for visitors. Additionally, Ensenada offers a variety of lodging infrastructure that goes from modern and comfortable first-class hotels with leisure and business facilities, to campusesng areas, which make it affordable to any budget.

Ensenada is a young city, acknowledged as one of the cities with best quality living in Mexico.

It is the third city in population in the state of Baja California, in the northeast of Mexico; located 110 kilometers (70 miles) south to the United States border.

It is located in the peninsula of Baja California, in Todos los Santos Bay, and is one of the main ports in the Pacific Ocean coast in Mexico.

Campus

Immigration procedures

After receiving the letter of acceptance from CETYS University, one must go to the nearest Mexican Consulate or Embassy and request a student visa.

The immigration document in need to study in Mexico is called FM3 (student visa). It is a required document, regardless of the period students will be studying in Mexico. If it is not possible to obtain a student visa from the student's country, it must be requested upon arrival to Mexico. For more information, we suggest students check directly with the National Immigration Institute.

Lodging

CETYS University does not have dormitories for students, however, the Department of International Programs can help students obtain lodging. It can be homestay or a rented department.

The approximate monthly living expenses that must be considered in order to live in Ensenada are the following:

Homestay:

330 dollars, including food

Appartment rent:

200 to 300 dollars

The price can vary according to the type of appartment, whether it is furnished or unfurnished, and the location.

Transportation (bus, taxis):

40 dollars

Books and school materials:

100 dollars

Food:

150 dollars

Leisure:

150 dollars

Transportation

The state of Baja California has toll and toll-free roads that join the main cities of the state. There is no train system. There are two airports: one of them in Tijuana (international airport) and another in Mexicali (domestic flights). In addition, there are different bus lines that travel the state's highways.

In Ensenada, the foreign bus station is located on Riveroll Ave., between 10th St. and 11th St.

The city has different urban buslines:

Transportes Vigía: they are mini buses whose route goes from north to south, with a station in the center of the city (Miramar Ave., between Juarez St. and 6th St.)

Transportes Brisa: they are mini buses whose route goes from north to south, with a station in the center of the city (4th St. between Macheros St. and Riveroll Ave.), as well as continuous bus stops along the route.

"Yellow & White" and "Red & White" bus lines: they are mini buses that travel different routes within town.

There are also taxis and radio taxis.

How to get to Ensenada

If you head for Ensenada from the Tijuana Airport: take a taxi to the Bus Station and request a ticket with destination to the city of Ensenada.

Take a taxi to San Diego's downtown. There you can take the trolley heading south to San Ysidro.

In San Ysidro, go to the International border, which must be crossed by foot to the city of Tijuana, in Mexico.

Once you are in Tijuana, turn right and walk for approximately one block; cross the street.

You will find a commercial area where the ABC Bus Station is located. There, you must purchase a bust ticket to travel to Ensenada.

Or, after crossing the International border from San Ysidro to Tijuana, take a taxi to the Bus Station in Tijuana. There you must request a ticket to take a bus towards Ensenada.

CETYS University offers reception service at no cost. In order to request it, you just need to communicate with the International Programs Department at the Ensenada Campus, which will give assistance upon your arrival. The information of your arrival must be sent (date, time, place, flight number, etc.) with at least two weeks in advance.

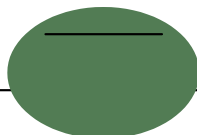
Campus

Weather

The weather in Ensenada is the Mediteranean type, generally nice, not extreme, and because it is located in the coast, it is frequently misty or foggy.

What distinguishes us as an Educational Institution

- For more than 45 years, we have contributed to shape the future of the youth of Baja California.
- High academic level instructors, who specialize in their area.
- Personalized advice and attention is provided by instructors.
- Integral training: academic, physical, cultural, human, and social development is promoted.
- Optimal infrastructure, adequate to the academic needs of each area.
- Leader graduates at a regional and national level.
- Financial aid to 7 out of 10 students.
- Professionals graduate with a degree.
- High English proficiency as a second language.
- Agreements with 70 universities in the world to participate in exchange programs.
- Agreements with universities in Mexico, to course one semester in any of the 22 private universities in the country.
- Opportunities for Business Administration students to course 50% of their credits in a foreign university, obtaining a double degree.
- A strong link with the production and social sector.
- Flexibility in the programs and schedules, for those who work.



Student exchange

NATIONAL EXCHANGE PROGRAM

The Academic Mobility University System Program (SUMA) is a National Exchange Program where a total of 22 Mexican private Universities belonging to FIMPES participate. The participating universities are located in the cities of: México, Monterrey, Guadalajara, Morelia, Veracruz, Torreón, León, Tampico, Hermosillo, Puebla, and Fresnillo. Students have the opportunity of studying one semester of their undergraduate degree in some of the universities that are part of SUMA by accrediting the courses upon their return. The host university does not charge any additional fees; therefore, students will only pay for tuition in their university of origin.

Two notices are published during the year; the first one in February, for the August-December semester of that year; the second one in September for the January-June semester of the following year.

The requirements for participating are:

- Students must, at least, be coursing the fourth semester at the time of requesting.
- Have a minimum grade point average of 85.
- A letter of recommendation from their Major Advisor.
- Present a one-page essay explaining the reasons why they want to participate.

Students selected by CETYS University commit to:

- Study a semester in the assigned university.
- Be officially registered in CETYS during the current semester.
- Have or be able to obtain the necessary resources for traveling expenses and support.

Procedure:

- Registration and tuition are carried out at CETYS.
- CETYS grants the corresponding academic credit for the courses to be studied in the host university, previously authorized by the School Director.

It is important to mention that students interested in participating in the SUMA program must go to the International Program Department to clear out any existing doubts, since students are not allowed to contact the Universities until assigned to one within the notice. All college programs participate.

Participating Universities:

Universidad Cristóbal Colón
www.verucc.mx
Veracruz, Veracruz

Universidad del Noroeste
www.uno.mx
Hermosillo, Sonora

CETYS Universidad
www.cetys.mx
Mexicali, Baja California Norte

Universidad de La Salle Bajío
www.delasalle.edu.mx
León, Guanajuato

Universidad Autónoma de La Laguna
www.ual.mx
Torreón, Coahuila

Universidad del Valle de México
www.uvmnet.edu
México, D. F.

Escuela Bancaria y Comercial
www.ebc.mx
México, D. F.

Universidad Intercontinental
www.uic.edu.mx
México, D. F.

Universidad Chapultepec
www.univchapultepec.edu.mx
Edo. de México

Universidad de Insurgentes
www.unam.mx/udual/afiliacion/insurgentes.htm
México D.F.

Universidad Pedregal
www.upedregal.edu.mx
México D.F.

Universidad Latina de América
www.unla.edu.mx
México, D. F.

Universidad del Valle de Atemajac
www.univa.mx
Guadalajara, Jalisco

Universidad de Monterrey
www.udem.edu.mx
Monterrey, Nuevo León

Instituto de Estudios Superiores de Tamaulipas
www.iest.mx
Tampico, Tamaulipas

Universidad Regiomontana
www.ur.mx
Monterrey, Nuevo León

Universidad Simón Bolívar
www.usb.edu.mx
México, D. F.

Universidad Anáhuac
www.anahuac.mx
México, D. F.

Universidad Popular Autónoma del Estado de Puebla
www.upaep.mx
Puebla, Puebla

Universidad Valle
www.uvbnlaredo.org
Edo. Tamaulipas

Universidad Autónoma de Fresnillo
www.uaf.mx
Fresnillo, Zacatecas

Universidad Anáhuac del Sur
www.uas.mx
México D.F.

INTERNATIONAL EXCHANGE PROGRAM

The internationalization program is a willingness to create a relevant atmosphere at CETYS University to develop training and a global mindset in the student body that allow their development as competitive Mexican professionals in the XXI Century society.

In this section, you will find the different programs that CETYS University offers through the International Program Department.

The international academic exchange programs have the main objective to grant students the opportunity of acquiring knowledge, practical experience, and cultural sensitivity in the international realm by coursing from a semester to an academic year in a foreign university in the United States, Canada, Chile, France, Italy, Holland, Spain, Argentina, Brazil, Finland, or Sweden.

The requirements for participating:

- Students must, at least, be coursing the fourth semester in the January-June period.
- Have a minimum grade point average of 85.
- A minimum score of 550 points in the TOEFL exam, and 500 points for Spanish-speaking Universities.
- Be a registered student at CETYS University.
- Language proficiency of host University.
- Present a one-page essay explaining the reasons why they want to be part of the student exchange program.

Documentation (in original and copy)

- Completed application form.
- Letter of recommendation from the Major Advisor.
- Transcripts.
- Letter explaining the reasons (one page).
- Completed commitment letter.
- Copy of valid passport.
- Brief résumé (one page) containing academic and extracurricular activities.

Advantages of participating in academic exchange programs:

- Accreditation of the courses studied abroad.
- Payment of tuition at CETYS University; academic scholarships and/or educational credit will be valid.
- Direct admission to the foreign university without taking the admissions exam.
- Social and cultural experience.
- Professional development with a global perspective.
- Administrative procedures are carried out at and by CETYS University.

Some benefits of academic exchanges:

- Strengthen holistic education in students.
- Complement the international focus in students' college program.
- Strengthen the learning of an additional language.
- Know other cultures.
- Share educational experiences.

The exchange program notice is annual, it is released in the month of November and it is closed on February 3 for Canada, and February 25 for the rest of the countries. In such notice, students participating in the international exchange program of the following academic year are selected; that is, in the August-December semester of that same year, and/or in the January-June semester of the following year.

CETYS University has collaboration programs and agreements with a total of 43 institutions: 5 institutions from the United States, 10 from Canada, 21 from Europe, and 7 from South America.

United States

- 1.- San Diego State University: www.sdsu.edu
- 2.- Southwestern College: www.swc.cc.ca.us
- 3.- CSU San Bernardino: www.csusb.edu
- 4.- CSU San Marcos: www.csusm.edu
- 5.- CSU Dominguez Hills: www.csudn.edu

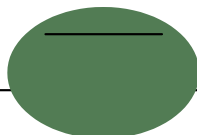
Canada

- 1.- Bishop's University: www.ubishops.ca
- 2.- Concordia University: www.concordia.ca
- 3.- Mc Gill University: www.mcgill.ca
- 4.- Technical University of Nova Scotia (Dalhousie University): www.dal.ca
- 5.- Huron College/UWO: www.uwo.ca/huron
- 6.- Université de Sherbrooke: www.usherb.ca
- 7.- Université Laval: www.ulaval.ca
- 8.- Université du Québec à Montréal : www.uqam.ca
- 9.- University of New Brunswick: www.unb.ca
- 10.- Ecole Polytechnique de Montreal: www.polymtl.ca

11.- Mount Royal College: www.mtroyal.ab.ca

Europe

- 1.- Fachhochschule, Aachen, Alemania: www.fh-aachen.de
- 2.- Haarlem Business School, Holanda: www.hshaarlem.nl
- 3.- Hogeschool Zeeland, Holanda: www.hz.nl
- 4.- Universidad Bergamo, Italia: www.unibg.it
- 5.- Université de Savoie, Francia: www.univ-savoie.fr
- 6.- Ecole Supérieure des Sciences Commerciales, Groupe ESSCA, Francia: www.essca.asso.fr
- 7.- Université Marne-la-Vallée, Francia: www.univ-mlv.fr
- 8.- Université Catholique d'Île de France, Francia: www.uco.fr
- 9.- IEP Rennes, Francia: www.rennes.iep.fr
- 10.- Universidad de Barcelona, España: www.ub.es
- 11.- Universidad Murcia, España: www.um.es
- 12.- Universidad de Zaragoza, España: www.unizar.es
- 13.- Centro Universitario Francisco de Vitoria, España: www.fvitoria.com
- 14.- Universidad Politécnica de Cataluña, España: www.upc.es
- 15.- Universidad de Salamanca, España: www.usal.es
- 16.- Jon Koping University, Suecia: www.hj.se
- 17.- Universidad de Karlstad, Suecia: www.kau.se
- 18.- Politécnico de Vaasa, Finlandia: www.bet.puv.fi
- 19.- Politécnico de Haaga, Finlandia: www.hiamk.fi
- 20.- Politécnico de Arcada, Finlandia: www.arcada.fi
- 21.- Politécnico de Kokkola, Finlandia: www.cop.fi



VISITING STUDENT PROGRAM FROM SDSU/IVC (Mexicali Campus only)

Students at CETYS University have the opportunity of studying one course of the semester at San Diego State University, at the Imperial Valley Campus, and validate it upon their return; likewise, students from San Diego State University, Imperial Valley Campus can come to CETYS University. Students pay their fees and tuition in their university of origin.

INFORMATION ON STUDIES IN THE UNITED STATES

Cetys University is host of the United States Education Orientation Center (COE-EUA) that depends from the International Education Institute, and the United States Consulate in Tijuana, BC.

The objective of COE-EUA is to advise, at no cost, High School and Higher Education students from Baja California in continuing their studies in Universities and Education Institutions in the United States through scholarship and other financial aid programs. One of the main functions, is to provide information on universities, language centers, scholarship notices, etc.

For more information:

Visit the web page: www.mxl.cetys.mx/coe-eua

e-mail: coe@cetys.mx

DOUBLE DIPLOMA PROGRAMS

Students participating in this program study a number of courses from the foreign university's program, and they are able to get an undergraduate degree in both institutions (national and foreign).

Through the agreement made with San Diego State University, the **MEXUS** program offers a double degree to International Business students; while the agreement with City University in Seattle, Washington is offered to students from Accounting, Administration, Marketing, and International Business.

MEXUS PROGRAM

MEXUS is an exchange program that CETYS University has with San Diego State University in collaboration with Southwestern College (Chula Vista, CA), and only International Business students participate.

The purpose of the MEXUS Program is to establish a program between México and the United States, where contribution to international relationships and promotion of global openness among students, from participating institutions, can be promoted.

The MEXUS Program consists on providing International Business students the opportunity of coursing half their degree program in México (at CETYS University), and the other half in the United States (Southwestern College and/or San Diego State University). We thus support and acknowledge the participating institutions regarding the studies made.

Benefits of participating in MEXUS.

- The opportunity of acquiring university experience in the United States.
- Receive instruction from specialized instructors with international experience in the United States.
- Learn another culture.
- Improve the English language.
- Take advantage of the learning technology that the United States offers.
- Be worthy ambassadors of CETYS University.
- Receive two college degrees: from San Diego State University and from CETYS University.

There are two notices per year: one is released in September to start the program in January of the following year in Southwestern College, and the other one is released in January to start the program in August of that same year in San Diego State University.

Students attending Southwestern College, study the "General Education" common core courses, and are later transferred to San Diego State University to study the "upper division" courses.

CITY UNIVERSITY PROGRAM

The program between CETYS University and City University allows the Business Administration College students to obtain a professional certification from a CETYS college program, and a professional certification from City University. Students from the International Public Accounting, Business Administration, Marketing Administration, and International Business programs from 5th semester can participate. Upon concluding the program, students can obtain the certificate from City University in Bachelor Science Business Administration.

It is a program where nine courses from City University are studied, the equivalent courses will be accredited by CETYS University in its program. The courses at City are completely delivered in English by faculty from this university. Students commit to attend City University in Seattle the first summer and study their first two courses; the rest of the courses can be studied at CETYS with City faculty. (Students may attend any venue from City University, if desired, such as: the United States, Canada, Bulgaria, Czech Republic, Rumania, Slovakia, Switzerland, China, and Australia).

BENEFITS

- Students from the mentioned schools conclude the program with a degree from CETYS University and with a diploma awarded by City University.
- Two college programs are promoted without having to course long periods in a foreign university.
- CETYS students who are enrolled in this program will also be students at City University and will enjoy all the services provided. They attend the Graduation Ceremony at CETYS and at City University.
- Students will live the internationalization experience by being in touch with students and faculty from different parts of the world, thus, immersing in quality education.

Comprehensive Education

In addition to the academic development based on educational programs, student life includes important aspects that are promoted among students, so they interact through the development of healthy, integrating, and living activities that encourage sports, cultural, and social aspects.

We have representative teams in the following sports:

- Men´s and Women´s basketball
- Arena Soccer
- Baseball
- Other particular sports in each city

HUMANISM PROGRAM

As part of our educational model, CETYS University has created the program “Yes, to life”, which strengthens the characteristics of humanism. The objective of this program is to promote values, attitudes, skills, and behaviors in all those belonging to the CETYS community, which will help them to develop holistically as human beings. Some specific objectives are stated as follows:

- Reinforcing the clarification of values.
- Promoting healthy lifestyles (protection factors).
- Better use of free time.
- Promoting and encouraging life projects.

This is developed through curricular activities, such as reflexion shops, conferences, research projects, panels, etc., as well as through extracurricular activities, such as recreational, sports, entertainment, and cultural events.

Educational Offerings

There are some decisions that will set your course of life, such as choosing what to major in, and most importantly, where to study. Your choice will define what you will be doing, at least, in the following 30 years.

CETYS University has a clear vision of the kind of specialists and professionals the region demands. By choosing one of our nine Bachelor of Arts Programs, or seven Engineering programs, you will be certain that upon graduating, you will find a solid work field.

The faculty at the CETYS University System is formed by instructors who have professional and academic experience. More than 60% of them have graduate studies in their field. Additionally, they distinguish themselves for encouraging the CETYS values: humanism, internationalization, and entrepreneurial culture, among others.

UNDERGRADUATE PROGRAMS

In order to benefit students, CETYS University has updated the programs for Business Administration, Engineering, and Psychology, in a way that all majors last eight semesters. That is, students enrolling on any college program, and coursing summer and winter courses, can conclue the program in a period of four years.

The syllabi in these areas are integrated by three types of courses: 1) common core courses for all areas, 2) common core courses for each area (Business Administration, Engineering, Education, Law, or Psychology), and 3) specific courses for each program.

	Ensenada	Mexicali	Tijuana	
Bachelor of Arts in Marketing Administration	*	*	*	
Bachelor of Arts in Business Administration	*	*	*	
Bachelor of Arts in International Business	*	*	*	
Bachelor of Arts in International Public Accounting		*	*	
Bachelor of Arts in Service Management		*	*	
Bachelor of Arts in Graphic Design	*	*		
Bachelor of Arts in Law		*	*	
Bachelor of Arts in Clinical Psychology		*	*	
Bachelor of Arts in Educational Psychology		*	*	
Bachelor of Arts in Organizational Psychology			*	*
Bachelor of Arts in Child Psychology		*	*	
Bachelor of Arts in Educational Science		*	*	

Engineering	Ensenada	Mexicali	Tijuana
Industrial Engineering	*	*	*
Electronic Cybernetics Engineering	*	*	*
Mechanical Engineering	***	*	*
Computer Science Engineering	*	*	*
Digital Graphic Design Engineering		*	*
Mechatronics Engineering	**	*	*
Software Engineering	*		

Admissions Process

1. INFORMATION ABOUT CETYS

Once we have sent you the information, to your school or home, you can call or visit CETYS to request personalized information of the admissions process.

2. PERSONALIZED VISIT TO YOUR HOME, WHERE WE CAN TALK ABOUT CETYS.

With the information provided, a counselor from CETYS will visit you to provide all the information that you and your parents need to know in order to enter our university.

3. PRE-REGISTRATIONS.

Cover the pre-registration fee, after which a registration number will be assigned to you. This includes: a CETYS Pre-Student ID, the cost for your admissions exam, study guide, and enrollment for a preparation course; this fee will be deducted from your registration fee; additionally, once you have been admitted, pre-registrations allow you a reservation of a position at CETYS and the financial aid assigned.

4. INTRODUCTION COURSE FOR ADMISSIONS EXAM

Once you have pre-registered, you will be assigned to a preparatory course for the exam. There are different application dates for the test, so you must check the calendar to choose the date to take the exam, depending on the campus of interest.

5. DELIVERY OF RESULTS AND ACADEMIC INTERVIEW

Once you have passed the exam, you should go to CETYS for an academic interview of the major you choose.

Financial Aid.

In case you comply with the requirements to apply for a scholarship or discount, you must present the corresponding application form with the required documents, according to the scholarship's notice.

6. REGISTRATIONS.

If you are considered an ADMITTED student, you must conclude the final registration process on the dates marked on the calendar for new students; class schedule, ID, and parking pass, among other things will be delivered to you.

7. UNIVERSITY INTRODUCTION COURSE

You must attend school on the dates scheduled on the calendar for the introduction course for new students.

8. FIRST DAY OF CLASS.

You must attend class on the time and classroom indicated on your schedule, with the ID and parking pass that were delivered to you during registrations.

Admissions Exam

In order to comply with the admissions exam requirement so you become part of CETYS University, here we explain a few important aspects you must know before the exam.

- It is the Academic Skills Exam for Higher Education from College Board, a North American organization internationally recognized for elaborating educational testing.
- It does not assess knowledge, but skills.
- It is composed of two parts, one part assesses verbal reasoning skills, and the other part assesses mathematical reasoning skills.
- It is a pencil and paper, multiple choice exam scored by scanner.
- The total score is 1,600 points. The minimum passing score is 1,100 points. If opting for financial aid, the score will be relevant for the percentage and type of scholarship that will be granted.

The exam is applied at CETYS University on different dates.

You must be present on the indicated place 15 minutes before the scheduled time. This is important, because once the exam begins, entrance is not allowed.

After taking the exam, the staff at the Personalized Registrations Department will call you by phone, within 7 days, to inform you the results.

Although the exam is applied in different times a year, the greater the anticipation regarding registrations date, the greater the possibilities you will have to obtain a better scholarship percentage.

Pre-Registrations

Once you get the admissions exam results, you can enroll on the college program you choose. That is why it is necessary to comply with the following requisites:

- Cover a pre-registrations fee in pesos, which gives you a registration number; after this, you are formally pre-registered.
- Present a high school minimum grade point average of 8. This is a very important requisite when opting for some kind of financial aid, since it will allow the scholarship percentage or educational loan that will be granted to you. If your average is less than 8, you may be admitted, but the chances of obtaining financial aid are very reduced. In order to prove your high school average, you must present your High School Diploma, issued by the institution where high school was studied.
- Take the admissions test.
- Take the English Language placement test. Due to the internationalization focus of the education at CETYS University, starting the 5th semester of your program, 40% of the courses will be taught in English; that is why all students must master the English Language before graduating. When requesting admissions, you must take a test, which will assess your English Level; if you lack the requested level, you will take the English Course since the first semester of your major, with a scholarship covering 100% of the course and the course expenses at CETYS University. If you accredit the English Language, then the TOEFL ITP test must be taken, so you can then choose to course a different language.
- Acquire the student's insurance plan offered by CETYS University for medical expenses, or prove you already have a similar one.
- Acquire the tuition insurance plan, which protects your High School and College education, in case the person in charge of paying for tuition deceases.

*The Institution reserves the right to admit or reject registration applications (Article 4, Students' Code of Conduct)

Equivalence and Transfers

Students who have studied at other national or foreign institutions, and wish to continue studying at CETYS University, may accredit courses through equivalence or transfer procedures.

Equivalence

Applies for studies made in schools belonging to the National Education System. Requirements (originals and 2 copies each):

- Birth Certificate
- High School Diploma
- Partial Certificate of the College Program coursed.

Transfers

The necessary documents to validate studies made in the United States are the following:

- Birth certificate
- Official transcript with grades coursed.

Important: Transcripts must be signed and stamped by the school, legalized by an American Notary Public, certified by the County's Court where the school is located, it must bear an Apostille by the American Department of State, and translated to Spanish by an authorized, certified translator.

Equivalence and transfers will be made for full semesters, as long as the candidate is a regular student, that is, without any failed courses.

Financial Aid for College Programs

CETYS University offers different options for your studies. Here you will find a general description of the different kinds of scholarships you can obtain.

Some items within Financial Aid can be combined, that is, you can obtain more than one at a time. If you wish to have more details about them, please read the Students Code of Conduct, as well as the Regulations for Scholarship-holding Students, or consult a CETYS executive.

The process for any type of financial aid consists of presenting the corresponding application form, along with the required documents; Financial aid is granted according to the rules of each item, and the acceptance of this benefit and responsibilities of the financial aid.

Education Credit

In order to complement your financial aid, CETYS University offers long term financing, which consists of a percentage on your tuition and registration fee.

Financing comprises three stages:

Phase of Study: It has the same duration as the program, a maximum of 5 years. In this stage, only interests are paid.

Period of Grace: It has a 6-month duration and its purpose is to let students settle down in the working area, and set the date to begin payments. In this stage, only interests are paid, as well.

Phase of Payment: During this stage, the amount financed for studying is returned to the Institution. It has the same duration as the program, but it could last less time. During the Phase of Study, as well as during the Period of Grace, anticipated payments can be made without penalization.

In order to be eligible to education credit, the following is required:

- Be admitted by CETYS University.
- Have a grade point average above 80, and not have failed courses.
- Agree to a socio-economical study, by a specialized firm.
- Two people must act as endorsers; they must not share a budget.
- Endorsers must provide copies of a property's deeds.
- The completed application form must be turned in at the Financial Aid Department, along with the following requisites:
 - High School or College transcript (copy).
 - Birth certificate of applicant and both endorsers (copies).
 - Proof of address of applicant and both endorsers (copies).
 - Official ID of applicant and both endorsers (copies).
 - Applicant's photograph.
 - A letter directed to the Education Credit Committee, where the need for credit is specified.
 - Proof of income from the person whom the applicant financially depends on.

Academic Scholarships

- **Talent Scholarship:** This is directed to students who enter any college program, and who stand out from aptitude skills, and their academic work in High School, who have a grade point average of 90, and at least 1100 points in the Admissions Exam; the scholarship begins with a 50% and may be increased by obtaining higher points in the admissions test, and with the socio-economical study.
- **Pro-Engineering Scholarship:** Directed to students who wish to enroll on any engineering college program, who stand out from aptitude skills, and their academic work in High School, who have a grade point average of 85, and at least 1200 points in the Admissions Exam; it is a 50% scholarship.
- **Sports Scholarships:** This financial aid area is directed to encouraging those students who, besides being outstanding athletes, are also academically outstanding students; this applies to new students, as well as to those belonging to sports teams representing CETYS University in basketball, football, and cheerleading. In order to determine the percentage of this scholarship, a physical technical exam must be taken with the person in charge of the discipline. (for High School and College programs.)

Discounts

With this type of financial aid, CETYS University acknowledges the trust and faithfulness of those who have been part of this educational institution. The following are discounts of different types:

- **Graduates Discount:** For graduate students of any school program at CETYS University (high school, college, graduate studies), who wish to continue studying at the institution. (Applicable only for College Programs)
- **Discount for Graduates' Children:** For the graduates' children of any school program at CETYS University (high school, college, graduate studies).
- **Discount for Siblings:** Applicable to those who have one or more siblings studying at CETYS University. This discount was created to support the economy of those families who have granted us their trust and preference by enrolling more than one child in High School or College.
- **Corporate Discount:** Applied to a group of five students or more, who work for the same company during the same period, previously requested by the company in writing.

CRITERIA USED IN THE ADMISSIONS PROCESS

A. COLLEGE PROGRAM

The Academic Skills Exam (ASE) from College Board will be used:

- 1100 points: Unconditional admittance score.
- From 1000 to 1099 points: Conditional admittance. New students entering the College Program must course the Academic Support Program.
- From 900 to 999 points: Conditional admittance. New students entering the College Program must course the Academic Support Program and have a grade point average of 80 or above.

B. GRADUATE STUDIES

- The GSAE Graduate Studies Admissions Exam designed and validated by College Board will be used, as well as:
- The English Language Placement Test at the English Language Center
- Or the TOEFL test.

B1. Master's Degree

- Unconditional admittance: 400 points or above in the GSAE and a score of 500 points in the TOEFL test.
- Conditional Admittance: 350 to 399 points in the GSAE and a score of 450 to 499 points in the TOEFL test.

In the case of the conditionally admitted students from the Graduate Studies Program, their professional experience will be analyzed, as well as the candidate's current job, regarding the program and the College program grades.

Additionally, criteria previously defined for each program that has been specified in the official syllabi and programs will be used.

In the case of foreign students who do not master the Spanish Language, the results from the verbal reasoning admissions exam will be analyzed. If the score is low, they will be conditionally accepted, and they will have to accredit all first semester courses and take a Spanish course.

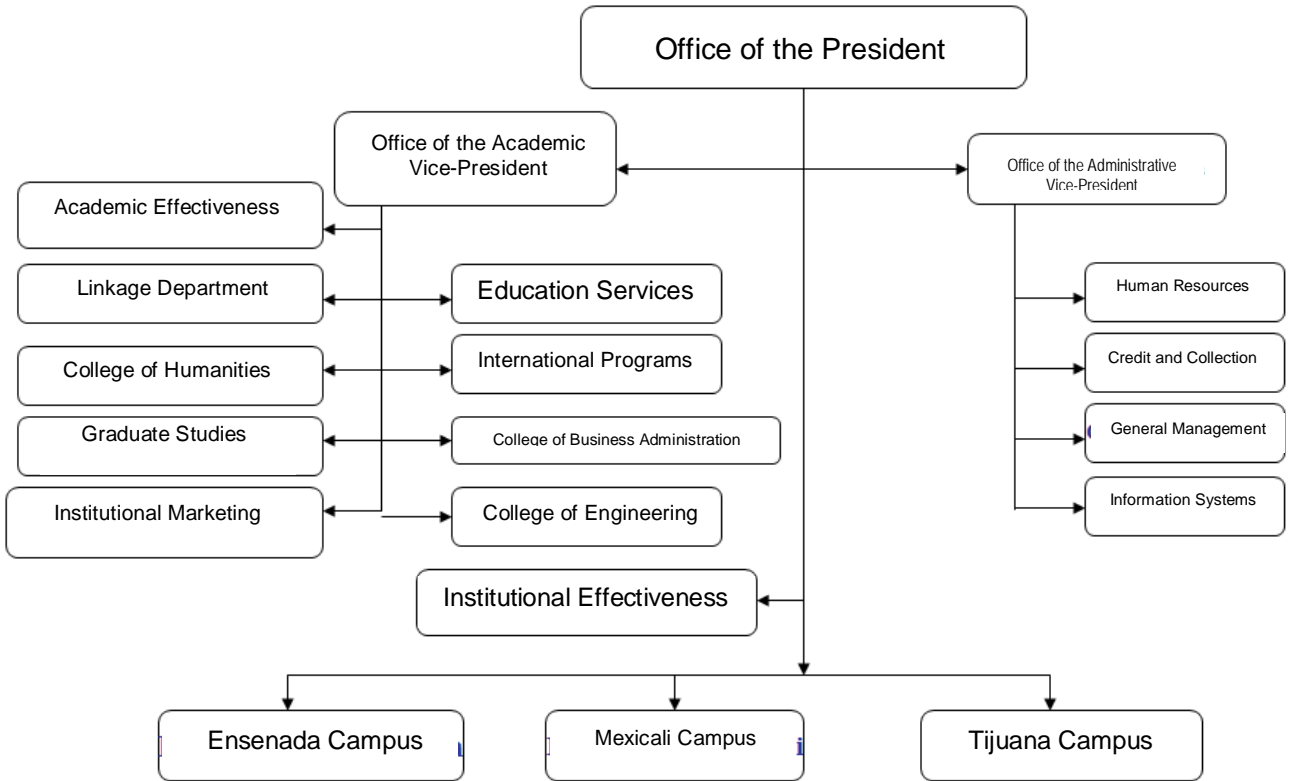
DEGREE CERTIFICATION REQUISITES

The current College Programs from CETYS University were designed in 2004; these programs establish the automatic degree certification procedure for students when accrediting all courses that are part of their program, without having to make any written work or presenting professional examination, since all requisites and procedures for obtaining a degree certification are integrated in each college program. Such requisites are:

- **Social Service:** It consists of fulfilling 500 hours of social service to the community; these hours are integrated in the course *Man, History and Society*, which is a common course to all programs.
- **Professional Practices:** Consisting of 400 hours of practice in an activity directly related to their college major, and are integrated in a course from their program; it must be linked to the production, governmental, or social sector, depending on the college program.
- **EGEL test (General Exam for College Graduation) from CENEVAL:** It consists of presenting the EGEL test from CENEVAL; it applies to all college undergraduates who request it. CETYS has an agreement with CENEVAL: the test is applied to students who are about to conclude their undergraduate program. CENEVAL has not designed tests for the Bachelor of Arts in Graphic Design and Digital Graphic Design Engineering, the corresponding school designs a general exam equivalent to EGEL's, and is applied institutionally.

By complying with these requisites: passing all corresponding courses, and fulfilling the rest of the legal requisites (birth certificate, certificate of previous studies, student photographs, etc.) students are considered to have graduated from the College Program.

INSTITUTIONAL ORGANIZATION CHART



PROGRAMS AND CURRICULAR MAPS

Curricular Design

In order to achieve the graduates' generic profile from CETYS University, different strategies have been implemented, one of them is that all undergraduate programs have a series of courses that are considered to be distinctive from the Institution. These courses form Axis 1.

Courses from Axis 2 are those common courses to all Colleges, that is, the undergraduate programs from the College of Business Administration have a series of courses that are common among them; likewise, the undergraduate programs at the College of Engineering, the College of Psychology, and the College of Humanities.

Courses from Axis 3 are those from each undergraduate program in particular.

All undergraduate programs are formed by 42 courses.

The curricular maps for each program are presented, as well as a brief description of each one, distributed by colleges.

COLLEGE OF BUSINESS ADMINISTRATION

BACHELOR OF ARTS	Ensenada	Mexicali	Tijuana
Marketing Management	•	•	•
Business Administration	•	•	•
International Business	•	•	•
International Public Accounting		•	•
Service Management			•
Graphic Design	•	•	
Law		•	•

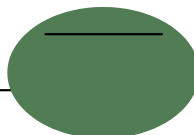
GRADUATE STUDIES	Ensenada	Mexicali	Tijuana
Master's Degree in Administration with concentration in: Marketing, Human Resources, Finances, Public Administrations=, High Administration, International Business, Supply Chain, Quality, Economical Development or Agro-business.	•	•	•

College of Business Administration Dean
Federico Sada de la Mora
 TELEPHONE: 52 (686) 567 3700 EXTENSIÓN: 3795
 email: fsada@cetys.mx

Arturo Villavicencio Hito
 College of Business Administration Director
ENSENADA CAMPUS
 PHONE: 52 (646) 174 5095 EXTENSION: 111
 email: arturov@ens.cetys.mx

Helia Cantellano Gutiérrez
 College of Business Administration Director
MEXICALI CAMPUS
 PHONE: 52 (686) 567 3700 EXTENSION: 3793
 email: heli@cetys.mx

Enrique Pérez Santana
 College of Business Administration Director
TIJUANA CAMPUS
 PHONE: 52 (664) 903 1828 EXTENSION: 220
 email: eperez@cetys.net



CPI INTERNATIONAL PUBLIC ACCOUNTING

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
CB400	FINANCIAL ACCOUNTING I	4	0	8	CB402	ADMINISTRATIVE ACCOUNTING	4	0	8
AD400	ADMINISTRATION	4	0	8	CB405	AUDITING I	4	0	8
DE400	PRIVATE LAW	4	0	8	DE402	INT'L LAW AND CUSTOMS	4	0	8
CS400	ADVANCED COMM. IN SPANISH	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
EC400	GLOB. AND ECON. DEVELOP.	4	0	8	ID400	ADVANCED COMM. IN ENGLISH	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
CB401	FINANCIAL ACCOUNTING II	4	0	8	FZ401	FINANCIAL MANAGEMENT	4	0	8
MA400	MATHEMATICS	4	0	8	CB406	AUDITING II	4	0	8
CC415	MANAGEMENT INFO. SYSTEMS	4	0	8	IM401	INTERNATIONAL TAX ISSUES I	4	0	8
EC401	ECONOMY	4	0	8	IM402	PEOPLE INCOME TAX	4	0	8
CS401	THINKING SKILLS	4	0	8	HU401	MAN, HISTORY AND SOCIETY	4	0	8
CS403	CULTURE I	2	0	4					
		22	0	44			20	0	40
3rd SEMESTER					7th SEMESTER				
FZ400	FINANCIAL ANALYSIS	4	0	8	AD402	ENTREPRENEURIAL DEVELOP.	4	0	8
MA410	STATISTICS	4	0	8	FZ403	PLANNING AND FIN. CONTROL	4	0	8
MK400	MARKETING ADMINISTRATION	4	0	8	IM403	INTERNATIONAL TAX ISSUES	4	0	8
DE401	LABOR LAW AND SOCIAL SEC.	4	0	8	IM404	PEOPLE INCOME TAX	4	0	8
HU400	MAN AND ENVIRONMENT	4	0	8	HU402	MAN AND ETHICS	4	0	8
CS404	CULTURE II	2	0	4					
		22	0	44			20	0	40
4th SEMESTER					8th SEMESTER				
CO400	COSTS	4	0	8	FZ402	INVESTMENT PROJECT	4	0	8
RI400	HUM. RESOURCE MANAGEMENT	4	0	8	FZ404	FINANCIAL MARKETS	4	0	8
CB403	HIGHER ACCOUNTING	4	0	8	FZ405	INTERNATIONAL FINANCES	4	0	8
CB404	INTERNATIONAL ACCOUNTING	4	0	8	AD407	STRATEGIC MANAGEMENT	4	0	8
DE405	FISCAL LAW	4	0	8	AD418	GLOBAL ORG. MANAG.	4	0	8
		20	0	40			20	0	40

FIRST SEMESTER**CB400 Financial Accounting I**

This is the basis to know how to use the financial information of economic entities, beginning with the analysis of the reason and purpose of accounting, its legal basis and everything related to the accounting process and the register systems, supported by computer systems concluding with the formal elaboration of the Financial Statements.

PRE-REQUISIT:**AD400 Administration**

This course is incorporated to the Administration and Business programs to introduce students to the study of the of domestic and global organizations their management, administration and evolution, social and ethical responsibilities of the companies and businessmen. Understanding of the different functions of any organization –production, human resources, marketing, accounting and finances- as well as the different stages of the administration process –planning, organization, integration, direction and control, to facilitate the optimization of material, human, physical and financial resources involved in administration.

PRE-REQUISIT:**DE400 Private Law**

This course includes the study of Law, its importance, the different norms that regulate it, its sources, subjects of family law, and the classification of civil contracts. It also includes commercial acts, the elements of a commercial transaction, types of credit and different types of mercantile partnerships.

PRE-REQUISIT:**CS400 Advanced Communication in Spanish**

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:**EC400 Globalization and Economic Development**

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's.

PRE-REQUISIT:**SECOND SEMESTER****CB401 Financial Accounting II**

In this course, students will reinforce the principles of accounting; apply the regulations stipulated in the C-3 bulletin, as well as the registers, valuation and presentation of inventory control, of Plant and Equipment property, of intangible assets, accounts payable, working capital and memorandum accounts.

PRE-REQUISIT: CB400 Financial Accounting I**MA400 Mathematics**

This course is offered to all the students of Business, Administration or Engineering with the aim of providing basic mathematics to allow them to take the subsequent mathematics courses or the ones pertaining the axis of their professional formation. This course takes on the concepts of mathematical logic.

PRE-REQUISIT:**CC415 Information Managerial Systems**

The importance of Information Systems in Organizations and their future trends will be analyzed throughout this course, to later deal with the technological aspects that that are directly related in their operations. Later the requirements for information systems construction in modern organizations will be determined. The course will also cover topics related to the Management and Organization of Decision Support systems and topics on the management of Contemporary Information Systems.

PRE-REQUISIT:**EC401 Economy**

This Economics course intends to provide students with the bases to understand the functioning of the economic system. In their professional lives as well as from a social perspective, it is essential that students understand how economic science helps us make better decisions in the use of resources and as such it will lead them to improved levels of economic well fare. From a microeconomic perspective, students are expected to understand the principles that rule a market's behavior. Whether it be as buyers or suppliers we all participate in the market, and it is important to understand it in order to have a better performance and

make efficient use of our resources. As for macroeconomic perspective, the objective is that students will be capable of analyzing the environment in which microeconomic decisions are made. It is also relevant for students to understand such important aspects as inflation, employment, mediation of economic activity and others, that will allow them to better understand their social reality.

Students must also be able to interpret the economic information published in the media and find their relation with the economic theory, in a way in which they can make an interpretation of their economic and social reality. The study of macroeconomics must provide students with a perspective on how society can improve its economic well being in a long-term basis, not only through short-term economic stabilization.

PRE-REQUISIT:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their education in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

CS403 Culture I

This course allows students to understand the development of culture throughout time and in present times, from an artistic and social point of view in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

FZ400 Financial Analysis

This course analyzes and interprets information from financial statements in order to evaluate operating results, company assets and debt statements, and the current situation of the contributed and earned capital from each partner, changes that have taken place and their cause of origin.

PRE-REQUISIT: CB401 Financial Accounting II

MA407 Statistics

Statistics provides indispensable tools for the recollection, treatment and analysis of relevant and important information that any decision-making process requires in order to be effective. With the support of computer systems, nowadays Statistics is not only for specialists or high budgeted companies. Today any business or individual can carry out successful statistical studies, no matter what field of study it is dealing with. That is to say, it applies to Engineering, Management, in business, Social Studies, etc. This course includes a theoretical as well as a practical formation, and deals with two main topics: Descriptive Statistics and Inferential Statistics related to the theory of probability. Statistics is part of the core knowledge that any professional should possess and its contents are indispensable to the rest of the courses that make up the curriculum of our various majors.

PRE-REQUISIT:

MK400 Marketing Administration

The Marketing Administration course is a theoretical-practical course where students learn the fascinating world of Marketing. They will learn the definition of Marketing, its reach and its application in companies working in the market. They will learn and develop a Marketing mix to solve problems in the different branches of business.

PRE-REQUISIT:

DE401 Labor Law and Social Security

During this course students will study, within Labor Law, work relations, work conditions, rights and obligations of employers and workers, work relations of women and minors, as well as the different regimes for Social Security law in relation to calculating how much an employer must pay Social Security, obligations of employers in case of work accidents or sick leaves, etc.

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

**CS404 Culture II
*Music Appreciation***

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments.

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression.

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER

CO400 Costs

This course focuses on the practical application of accounting concepts in the process of industrial production, with the objective of controlling operations, generating information and knowing the unit cost of a product, and hence, the cost of inventory and earnings in a company, in order to achieve an efficient Management of a company's costs. This course is aimed at all the business majors, as part of the core curriculum of Administration and Business.

PRE-REQUISIT: CB400 Financial Accounting I and CB401 Financial Accounting II

RI400 Human Resources Administration

This course provides an overview of the discipline of Human Resources management, its functions, its importance and reach, as well as the diverse techniques and tools used to contribute to the efficiency and effectiveness of an organization.

PRE-REQUISIT:

CB403 Superior Accounting

This course has a practical approach on the following topics: Installment Sales, Financial Lease, Foreign Currency Transactions, Re-statement of Financial Statements, Consolidated and Combined Financial Statements, Societies Merging, Spin-Off, Dissolution and Liquidations, Federal Law of Bankruptcy (formerly Bankruptcy and Payment Suspension Law), Accounting Study of Taxes, taxes, asset tax and Employees Participation in Income and Deferred Taxes. This course is intended for International Accounting students that have completed the courses of Financial Accounting I and II.

PRE-REQUISIT: CB400 Financial Accounting I y CB401 Financial Accounting II

CB404 International Accounting

This course has a practical approach on the knowledge of the existing regulations in the financial information at an international level, mainly in the environments where national economy is developed with the Free Trade Treaty (TLC), the European Union and the Pacific Rim. The record of transaction made in Foreign Currency and the presentation of financial information with these characteristics.

PRE-REQUISIT: CB400 Financial Accounting I y CB401 Financial Accounting II

DE403 Fiscal Law

Fiscal Law is fundamental for Public Accountants due to the following reasons:

For Public Accountants we can say, as an example, not necessarily in a specialized way, that the most important areas should be, Accounting, Taxes, Audits and Finances.

Inside the mentioned areas it can be discussed that still one of the most important or the most important can be the fiscal area (taxes). Taxes are found inside the fiscal area.

The main topic is the Federation's Fiscal Code, one of the many laws that Public Accountant must know and analyze. Generally Accounting students tend to separate this fiscal theme from the rest of the fiscal subjects. One of the reasons is that it covers a lot of legal content in contrast to the other subjects that contain more numeric cases that are identified with the major. The problem that can arise or arises when students do not give the necessary importance to this subject or topic, is that the general and legal principles of taxes are found in the Federation's Fiscal Code, that is, considerable information applicable to all special fiscal laws, therefore this topic can not be ignored or underestimated by Public Accountants. For all the previously mentioned reasons during the course students will study Tax Law, the state's financial activity and fiscal law, state's income, the constitutional foundations, tax relations, tax payers' rights and obligations, extinction of fiscal credits, faculties of fiscal authorities and defense tools that tax payers can use in fiscal trials before fiscal authorities.

PRE-REQUISIT:

FIFTH SEMESTER

CB402 Managerial Accounting

This course has a practical approach on Costs Accounting for Decision Making, and covers the study of the following topics: the Cost-Volume-Profit relationship, Marginal Analysis for short-term business decisions and Costs Management, with the cost analysis and record contemporary philosophies and methods.

PRE-REQUISIT: CB400 Financial Accounting I; CB401 Financial Accounting II; AD400 Administration and CO400 Costs

CB405 Auditing I

Auditing is a systematic process to determine the precision degree of informative content with the evidence that originated it as well as to determine that the financial-accounting reports have been elaborated observing the established principles to do so. In this course, students will know, master and apply the Auditing norms in the examination of Financial Statements, as well as the personal norms of work execution. They will master and apply auditing techniques and procedures, the termination of the auditing process, the information norms and create work roles. At the end of the course they will develop specific aspects for the analysis or auditing of each of the accounts of the financial statements. This course has a theoretical orientation since Auditing II is essentially practical.

PRE-REQUISIT:

DE402 International Law and Customs

International Law and Customs is fundamental for Public Accountants, in their preparation in the international environment because of the following:

1. The study of international law creates an understanding of the legal basis on the application of treaties among nations in their commercial transactions.
2. In this area the repercussions of the professional, capital, good and services traffic between nations is analyzed.
3. Everything concerning customs proceedings for merchandise importation and exportation will be part of their professional practicum.

Because of the previously mentioned, during this course students will study inside International Law the fundamentals of private and public law at an international level; regulation of foreign investment and the functioning of the customs system in Mexico. This course is related to other courses in the program such as: Private Law, Economy, Fiscal Law and International Accounting.

PRE-REQUISIT: DE400 Private Law; EC401 Economy; DE405 Fiscal Law; CB404 International Accounting

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

SIXTH SEMESTER**FZ401 Financial Management**

This course sets the basis of Financial Management helping students understand the importance of finances in a business and its environment. Also known as Work Capital Administration of Financial Management Foundations, this course provides alternative analysis tools to be applied to the short-term lines in a company classified inside the Current Assets and Liabilities. Schemes such as cash budget, different types of short-term investments in the Financial System; changes in credit policies; the determination of the ideal quantity of inventory request; and the options of short-term financing are the most relevant topics in this course. This is a mainly practical course that will require the constant use of financial calculator, spreadsheets and above all it is recommended the reading of the topics presented in the given bibliography.

PRE-REQUISIT:

CB406 Auditing II

In this course, students will be provided with a general induction of the profession responsibilities in the performance of a world class auditing, the procedures to use in auditing will be analyzed to conclude with the writing of the report through practical cases to be resolved through work roles and through computer systems and being the fundamental idea to turn the classroom into a workshop or laboratory. The most appropriated software for such cases must be used so students can practice the acquired theoretical knowledge in Auditing I, that is that they learn to create cédulas de auditoría, just as if they were working in a Public Accounting Office so they can develop confidence according to what they are learning and practicing under the instructor's supervision.

PRE-REQUISIT: CB405 Auditing I

IM401 International Tax Issues I

This is a theoretical-practical course on international tax issues. A natural person residing abroad but whose income is acquired in national land is tied to a tax system that allows him to avoid double tax payment here and in his country of origin. This course content focuses on the study of the diverse situations deriving from this kind of operations between two countries or groups of countries. The existing international laws and agreements will be studied. This is a course that includes a great proportion of practice and pursues the understanding of the double taxation and the guidelines followed by companies or individuals whose commercial activity makes them participate in two different tax systems.

PRE-REQUISIT:

IM402 People Income Tax

In the Mexican Tax System, income taxes represent the most important ordinary income in matters of recollection and control, regulating the income of natural and artificial persons and particularly in this course People Income Tax. It is intended to carry out an analysis and study as practical and objective as possible in order to be able to harmonically interpret the dispositions for their correct and timely analysis according to the main dispositions of the Income Law of Mexico's Income Tax antecedents and particularly of the Income Tax Law according to the general dispositions, income, annual payment, authorized deductions, deduction requirements, non-deductible expenses, or investment deduction, deduction, annual adjustment due to the inflation of amortization of tax loss and obligations corresponding to Artificial Person under the Law General System. It is expected that at the end of the course students will develop the ability of analyzing, interpreting and applying the tax dispositions to provide tax payers legal security by making them contribute in a proportional and equitable way according to the dispositions of Tax Income Law and its conditions, miscellaneous resolution rules and other correlative dispositions.

PRE-REQUISIT:

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' college students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes mankind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

Seventh Semester**AD402 Entrepreneurial Development**

This course's objective is to foster and develop an entrepreneurial spirit, encouraging leadership and team work; to identify entrepreneurial competencies and entrepreneurial businessmen, by providing knowledge through the creation of a business plan for the creation of a juvenile company in which they will apply the acquired knowledge to determine the best strategies in the areas of Human Resources, Marketing, Finances, Production and General Management fostering the experience of creating their own business motivating the organization, work under pressure and a good work environment for the development of entrepreneurial skills.

PRE-REQUISIT:

FZ403 Planning and Financial Control

This course presents a practical orientation of budgeting in the functional areas of a business. Also, according to the nuances of the CETYS model, collaborative and experiential learning from students is sought, through the complete development of a general and specific area Budget. This course is part of Cost and Managerial Accounting and completes Costs study area.

PRE-REQUISIT:

IM403 International Tax Issues II

Theory and Practice regarding international tax issues are revised in this course. The study of the different dispositions of international models applicable to Natural or Artificial Persons regarding commercial exchange and the derived tax obligations according to the agreements signed by Mexico with European and Latin American countries to avoid double taxation. This is a course that includes a big proportion of practice and that pursues the understanding of double taxation procedures and the guidelines that companies and or people. This is a course that includes a great proportion of practice and pursues the understanding of the double taxation and the guidelines followed by companies or individuals whose commercial activity makes them participate in two different tax systems. Alongside with all of this it is intended to know the agreements of double taxation with the European Union and Central and South America considering issues deeply related such as the fiscal aspects of e-commerce. This course follows International Tax Issues I.

PRE-REQUISIT: [IM401 International Tax Issues I](#)

IM404 People Income Tax

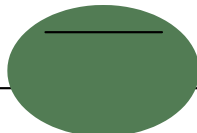
This course makes an exhaustive and practical analysis of the fiscal dispositions applicable to the different types of income such as: Salaries, entrepreneurial and professional activity, lease, property transfer, property acquisition, interests, prizes, dividends and of other income; identifying the accumulated taxable income and the partially accumulated income, and exempt income for withholding purposes, provisional payments and fiscal year considering the chapter's specific deductions that are considered for each type of income as well as the personal deductions for taxes yearly payments.

PRE-REQUISIT:

HU402 Man and Ethics

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' college students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes mankind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:



EIGHTH SEMESTER

FZ402 Investment Project

This course intends to familiarize student with the process of elaboration of a feasible investment project through different studies such as: marketing research, plant engineering research, administration research and financial economical study, applying the tools and methods to assess the different long-term investment alternatives. They will assess and select the most profitable alternative, considering the different situations by which the company is surrounded, such as the macroeconomic environment, money cost and its current value, they will analyze the financial structures, money cost and its financing sources for which they will utilize the concepts of financial mathematics, market research interpretation, etc.

PRE-REQUISITO:

FZ404 Financial Market

Students will obtain the elements to differentiate the different markets the operate in the Mexican Financial System framework; as well as the operation mechanisms and instruments that contribute in the development of markets and of the country's different economic sectors, using the computer as a support in the information collection and design of a model to assess investment portfolios.

In this course students will develop skills to:

- Make investment decisions in the primary market.
- Analyze investment instruments.
- Identify the financial environment in Mexico.
- Study and analyze the functioning of the Stock Market.

PRE-REQUISIT:

FZ405 International Finances

During this course, students will analyze the decision-making process that derives from international operations, Exchange rates, investments, financing and its repercussions in different types of balance of payments, in the frame of the international monetary system, financial markets, and merchandise markets and future values, as a fundamental part of the globalization and internationalization process of Mexican corporations.

PRE-REQUISIT:

AD410 Strategic Management

Students will be able to develop their high level decision making skills and apply them in a business environment with a strategic focus on business management.

In this course students will develop their abilities to:

- Understand the role, tasks and skills of a general manager and how to run a company.
- Identify how the internal and external environment influence and impact the strategic management process.
- Appreciate the different forms in which the corporate government mechanisms affect the implementation of the strategy.
- Explain how the strategic actions of a business firm can be influenced by the competitors actions and reactions.
- Discuss the international strategic management contemporary trends.
- Understand and possibly apply the concepts and practice of strategic management in the work environment.

PRE-REQUISIT:

AD411 Global Organizations Management

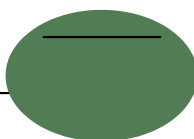
At the end of this course students:

WILL BE ABLE TO: Evaluate from a social, cultural, political and economic point of view the development of Mexican, Latin American, Japanese, Chinese, Korean, Middle Easter and some European countries cultures, to efficiently manage Global Organizations immerse in a universe exposed to a cultural diversity that influence the form in which their functions and performance will be developed.

UNDERSTAND: The role of cultural diversity in organizations. The relationships among individuals considering the cultural differentiation and the way by which an adequate organizational environment can be created, considering human capital. How to apply the means through which the work team physical and mental welfare will be rescued?

KNOW AND APPLY: Cultural diversity from a social, political and cultural point of view, as well as to confront the XXI century's challenges. Observe behavior in a contingency framework using situational variables to model the cause-effect relationships.

PRE-REQUISIT:



LAE BUSINESS ADMINISTRATION

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
CB400	FINANCIAL ACCOUNTING I	4	0	8	CB402	ADMINISTRATIVE ACCOUNTING	4	0	8
AD400	ADMINISTRATION	4	0	8	IM400	FINANCIAL FRAMEWORK	4	0	8
DE400	PRIVATE LAW	4	0	8	MK401	MARKET STUDY INTERPRETATION	4	0	8
CS400	ADVANCED COMM. IN SPANISH	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
EC400	GLOB. AND ECON. DEVELOPMENT	4	0	8	ID400	ADVANCED COMM. IN ENGLISH	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
CB401	FINANCIAL ACCOUNTING II	4	0	8	FZ401	FINANCIAL MANAGEMENT	4	0	8
MA400	MATHEMATICS	4	0	8	II414	PRODUCTION SYST. MANAGEMENT	4	0	8
CC415	MANAGEMENT INFO. SYSTEMS	4	0	8	II415	SUPPLIER DEVELOPMENT METHODOLOGY FOR SYSTEM	4	0	8
EC401	ECONOMY	4	0	8	II416	IMPROVEMENT	4	0	8
CS401	THINKING SKILLS	4	0	8	HU401	MAN, HISTORY AND SOCIETY	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
FZ400	FINANCIAL ANALYSIS	4	0	8	AD402	ENTREPRENEURIAL DEVELOPMENT	4	0	8
MA410	STATISTICS	4	0	8	AD403	PROJECT MANAGEMENT	4	0	8
MK400	MARKETING ADMINISTRATION	4	0	8	AD404	BUSINESS	4	0	8
DE401	LABOR LAW AND SOCIAL SECURITY	4	0	8	AD405	AUDITING AND BUSINESS ADVISING	4	0	8
HU400	MAN AND ENVIRONMENT	4	0	8	HU402	MAN AND ETHICS	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
CO400	COSTS	4	0	8	FZ402	INVESTMENT PROJECT	4	0	8
RI400	HUMAN RESOURCE MANAGEMENT	4	0	8	AD406	MANAGEMENT PHILOSOPHY	4	0	8
RI401	HUMAN BEHAVIOR IN THE ORG.	4	0	8	AD407	STRATEGIC MANAGEMENT	4	0	8
MA408	QUANTITATIVE MODELS SMALL AND MEDIUM BUSINESS	4	0	8	AD408	LEADERSHIP LESSONS	4	0	8
AD401	MANAGEMENT AND FRANCHISES	4	0	8	AD409	HIGH ADMINISTRATION SEMINAR	4	0	8
		20	0	40			20	0	40

BUSINESS ADMINISTRATION

FIRST SEMESTER

CB400 Financial Accounting I

This is the basis to know how to use the financial information of economic entities, beginning with the analysis of the reason and purpose of accounting, its legal basis and everything related to the accounting process and the register systems, supported by computer systems concluding with the formal elaboration of the Financial Statements.

PRE-REQUISIT:

AD400 Administration

This course is incorporated into the Administration and Business curricula to introduce students to the study of organizations, their administration and evolution, the social and ethical responsibility of companies and businessmen. Understanding of the different functions of any organization –production, human resources, marketing, accounting and finances- as well as the different stages of the administration process –planning, organization, integration, direction and control, to facilitate the optimization of material, human, physical and financial resources involved in administration.

PRE-REQUISIT:

DE400 Private Law

This course includes the study of Law, its importance, the different norms that regulate it, its sources, subjects of family law, and the classification of civil contracts. It also includes commercial acts, the elements of a commercial transaction, types of credit and different types of mercantile partnerships.

PRE-REQUISIT:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:

SECOND SEMESTER

CB401 Financial Accounting II

In this course, students will reinforce the principles of accounting; apply the regulations stipulated in the C-3 bulletin, as well as the registers, valuation and presentation of inventory control, of Plant and Equipment property, of intangible assets, accounts payable, working capital and memorandum accounts

PRE-REQUISIT: CB400 Financial Accounting I

MA400 Mathematics

This course is offered to all the students of Business, Administration or Engineering with the aim of providing basic mathematics to allow them to take the subsequent mathematics courses or the ones pertaining the axis of their professional formation. This course takes on the concepts of mathematical logic.

PRE-REQUISIT:

CC415 Managerial Information Systems

During this course we will first analyze the importance of Organizational Information Systems and their future tendencies, and then later analyze the technological aspects that are directly related to their operation. Finally, the requirements to build modern Organizational Information Systems will be determined, and we will continue with topics related to Support System Management and Organization for Decision-making, and finishing with contemporary Information System management topics

PRE-REQUISIT:

EC401 Economics

This Economics course intends to provide students with the bases to understand the functioning of the economic system. In their professional lives as well from a social perspective, it is essential that students understand how economic science helps us make better decisions in the use of resources and as such, it will lead them to improved levels of economic well fare. From a microeconomic perspective, students are expected to understand the principles that rule a market's behavior. Whether it is as buyers or suppliers, we all participate in the market, and it is important to understand it in order to have a better performance and make efficient use of our resources. As for macroeconomic perspective, the objective is that students will be capable of analyzing the environment in which microeconomic decisions are made. It is also relevant for students to understand such important aspect as inflation, employment, mediation of economic activity and others, that will allow them to better understand their social reality.

Students must also be able to interpret the economic information published in the media and find their relation with the economic theory, in way in which they can build and interpretation of their economic and social reality. The study of macroeconomics must provide the student with a perspective on how society can improve its economic well-being long-term, not only through short-term economic stabilization.

PRE-REQUISIT:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers. .

PRE-REQUISIT:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER**FZ400 Financial Analysis**

Once students have accredited Financial Accounting II CB401, where they get to know the accounting process and analyze the most widely accepted principles of accounting, as well as the particular rules for valuation and presentation of different concepts that integrate the financial statements, it is time to analyze and interpret the information contained in them, to assess operating results, company assets and debt statements, and the current situation of the contributed and earned capital from each partner, changes that have taken place and their cause of origin.

PRE-REQUISIT:

MA407 Statistics

Statistics provides indispensable tools for the recollection, treatment and analysis of relevant and important information that any decision-making process requires in order to be effective. With the support of computer systems, nowadays Statistics is not only for specialists or high budget companies. Today any business or individual can carry out successful statistical studies, no matter what field of study it is dealing with. That is to say, it applies to Engineering, Management, in business, Social Studies, etc. This course includes a theoretical as well as a practical formation, and deals with two main topics: Descriptive Statistics and Inferential Statistics related to the theory of probability. Statistics is part of the core knowledge that any professional should possess and its contents are indispensable to any the rest of the courses that make up the curriculum of our various majors

PRE-REQUISIT:

MK400 Marketing Administration

The Marketing Administration course is a theoretical-practical course where students learn the fascinating world of Marketing. They will learn the definition of Marketing, its reach and its application in companies working in the market. They will learn and develop a Marketing mix to solve problems in the different branches of business.

PRE-REQUISIT:

DE401 Labor Law and Social Security

During this course students will study, within Labor Law, work relations, work conditions, rights and obligations of employers and workers, work relations of women and minors, as well as the different regimens for Social Security law in relation to calculating how much an employer must pay Social Security, obligations of employers in case of work accidents or sick leaves, etc.

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

CS404 Culture II***Music Appreciation***

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER**CO400 Costs**

This course focuses on the practical application of accounting concepts in the process of industrial production, with the objective of controlling operations, generating information and knowing the unit cost of a product, and hence, the cost of inventory and earnings in a company, in order to achieve an efficient Management of a company's costs. This course is aimed at all the business majors, as part of the core curriculum of Administration and Business.

PRE-REQUISIT: CB400 Financial Accounting I and CB401 Financial Accounting II

RI400 Human Resources Administration

This course provides an overview of the discipline of Human Resources management, its functions, its importance and reach, as well as the diverse techniques and tools used to contribute to the efficiency and effectiveness of an organization.

PRE-REQUISIT:

RI401 Human Behavior in the Organization

This course emphasizes the importance of a persona and the relations they establish with the additional elements of organizational behavior. It includes understanding organizational culture through an analysis of the diverse elements that integrate it. It also analyzes the elements that intervene in the motivation and satisfaction of individuals inside an organization, compare different motivational theories, and understand management styles and carrying out a corporate analysis of its main currents. Students will comprehend the variables that intervene in social processes as well as the knowledge of some tools that may be of great use for any executive involved in group management. This course develops consciousness by adopting new management approaches for human resources in order to enrich and mediate quality of life at work. Students will also perform a socio-economic analysis of the factors that are involved in the internationalization of human resources.

PRE-REQUISIT:



MA408 Quantitative Models

This course deals with the construction of mathematical models applied to administration. It also deals with methods to find an optimal solution to formulated problems and the consequent making of the most adequate decisions for the analyzed situation. This course works with models that involve certainty and also low risk models, using linear equations for certainty situations and probability as a base for the analysis of low uncertainty. In this course, we emphasize communication results in a simple and understandable manner for people who are not experts on the topic.

PRE-REQUISIT:

AD401 SMALL AND MEDIUM BUSINESS MANAGEMENT AND FRANCHISES

This course studies small business by analyzing the main factors of their environment, the financial and technical support in favor of small businesses, the tools to develop the functions of a small business. In the field of franchises, their development in Mexico, Latin America and the rest of the world will be studied, as well as their legal framework.

PRE-REQUISIT:

FIFTH SEMESTER**CB402 Administrative Accounting**

This course is the practical application of Cost Accounting and Decision Making, and includes the study of the following topics: The Cost-Volume-Revenue relation, Marginal Analysis for short-term business decisions and Cost Management, using contemporary register and cost analysis methods and philosophies.

PRE-REQUISIT: CB400 Financial Accounting I; CB401 Financial Accounting II; AD400 Administration and CO400 Costs

IM400 Financial Framework

This is a course that provides the bases for understanding a company's financial obligations. It is fundamental for administrative studies because of the following:

1. It relates administration with the areas of Accounting, Taxes, and Finance.
2. This course will study in a very general and basic way how the fiscal regimen affects companies, whether they are corporations or small business.

The importance of studying the Financial Framework of a company comes from the fact that when decisions are being made, an important part of the company is being considered: its financial obligations. Because of this, students will study the Constitutional origin of financial obligations, the study of Income Tax for corporations as well as for individuals, the study of Value Added Tax, and the study of Asset Tax among other state taxes.

PRE-REQUISIT:

MK401 Market Study Interpretation

This course is theoretical-practical and the different designs of market research and data recollection methods are analyzed. It is related to marketing, research methodology, and statistical tools to analyze and interpret qualitative and quantitative research results in order to elaborate management strategies for decision making with a scientific focus. Students will apply data analysis techniques in order to solve marketing problems.

PRE-REQUISIT:

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well as a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

SIXTH SEMESTER**FZ401 Financial Management**

This course sets the foundation for Financial Management, guiding students to understand the importance of finance in a company and their environment. Also known as Working Capital Management or Financial Management Fundamentals, this course provides the tools to analyze alternatives applicable in a short-term, classified within Current Assets and Liabilities.

Frameworks such as a cash budget, the different types of short-term investments in the Financial System, the changes in credit policies, the establishment of optimum amounts of inventory, and short-term financing options are some of the most relevant topics for this course. This is mainly a practical course that will require the constant use of a financial calculator, electronic worksheets, and, most of all, extensive reading on topics provided in the bibliography.

PRE-REQUISIT:

II414 Production System Management

This course will develop in students a solid understanding of the concepts and techniques of operations management, given the importance of strategies that promote productivity, optimization, and effectiveness, covering quantitative techniques, especially in the area of service. Special attention is paid to the dynamics of markets and the sudden changes in the taste of potential customers, and in the actions that must be taken in order to respond to the demands of International competitors.

PRE-REQUISIT:

II415 Supplier Development

This course is intended for students to develop a solid understanding of the necessary analytical tools to solve supply-chain problems, their strategic role, their performance in its key factors and the analytical methodologies for the analysis of the supply chain.

PRE-REQUISIT:

II416 Methodology for System Improvement

In this course students will develop a solid understanding of the culture of quality, continuous improvement and its role in productive Systems, focusing on specific manufacturing and service company topics, centered on a Management system that oversees planning to comply with the needs of clients through Leadership and strategic planning, reaching its goals through the actions of people and work procedures, without losing sight of continuous improvement, and using the process of decision making as a guide.

PRE-REQUISIT:

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

SEVENTH SEMESTER**AD402 Entrepreneurial Development**

The objective of this course is to promote and develop and entrepreneurial spirit, fomenting leadership and team work; identify the competencies of an entrepreneur, providing knowledge through the creation of a business plan to put together a young company, in which they will apply their acquired knowledge to determine the best strategies in the areas of Human Resources, Marketing, Finance, Production and General Management, giving them the experience of creating their own company while motivating organization, working under pressure and in a healthy environment for the development of entrepreneurial abilities.

PRE-REQUISIT:

AD403 Project Management

The Project Management Course presents a theoretical orientation of the most innovative concepts in this area, as well as complying with the nuances of the CETYS model, looking to develop collaborative learning and student experience through a complete development of a Project.

PRE-REQUISIT:

AD404 Business

This course, in its seminar modality, is incorporated into the Administration and Business curriculum to introduce students in a theoretical-practical way to the analysis and application of negotiating components in everyday situations inside and outside a work environment: negotiations with potential customers, work colleagues, suppliers, political organizations, International negotiations, negotiation with diverse work forces, among others; personally as well as in groups.

PRE-REQUISITO:**AD405 Auditing and Business Advising**

This course introduces students to the auditing profession, its nature, methods, organizational principles, norms of conduct and training and professional perfection practices.

PRE-REQUISITO:**HU402 Mankind and Ethics**

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:**EIGHTH SEMESTER****FZ402 Investment Project**

This course is intended for students to know the process of elaborating a investment feasibility project through different kinds of studies, such as: Market Research, Plant Engineering studies, Management Studies, Finance and Economy Studies, applying different tools and methods for long term investment. They will evaluate and select the most profitable alternative, taking into consideration the different situations that surround the business; such as its macro-economic environment, the cost of Money and its current value, analyzing financial structures, the cost of Money and its Financing sources, for which they will use Financial Mathematics Concepts, financial analysis, administrative accounting, financial Management, interpretation of market research, etc.

PRE-REQUISIT:**AD406 Management Philosophy**

Students will study the different philosophies, theories, cycles, and tendencies that business management has gone through throughout history. They will get to know different management cultures that have existed, the changes different theories have suffered, with the purpose of learning to analyze and study their environment in order to make decisions.

PRE-REQUISIT:**AD407 Strategic Management**

Students will be able to develop their upper-management decision making skills and apply them in a business environment with a strategic focus in company Management.

This course will develop in students the ability to:

- o Understand the roles, tasks and abilities of a general manager and how to run a company.
- o Identify how the internal and external environment impact and influence the process of strategic management.
- o Appreciate the different ways in which corporate government mechanisms affect the implementation of strategies.
- o Explain how the strategic action of a business firm can be influenced by the actions and reactions of the competition.
- o Discuss current tendencies in international strategic management.
- o Understand and possibly apply the concepts and practices of strategic management in a working environment.

PRE-REQUISIT:**AD408 Leadership Lessons**

This course, in its Seminar modality, is incorporated into the Business and Administration curriculum in order to introduce students in a theoretical-practical way to analysis and application of the nature, styles and abilities of Leadership, using historical and contemporary models on the topic.

PRE-REQUISIT:

AD409 High Administration Seminar

This course, in its Seminar modality, intends to generate in students the knowledge and abilities necessary for decision making in a management environment, as well as to develop in them the capacity to analyze the environment of organizations in order for their decisions to be supported.

PRE-REQUISIT :

LNI INTERNATIONAL BUSINESS

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
CB400	FINANCIAL ACCOUNTING I	4	0	8	CB402	ADMINISTRATIVE ACCOUNTING	4	0	8
AD410	INTRO TO INT'L BUSINESS	4	0	8	MK417	INTERNATIONAL AMRKETING	4	0	8
DE400	PRIVATE LAW	4	0	8	EC402	CUSTOMS AND FOREIGN TRADE	4	0	8
CS400	ADVANCED COMM. IN SPANISH	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
EC400	GLOB. AND ECON. DEVELOPMENT	4	0	8	ID400	ADVANCED COMM. IN ENGLISH	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
CB401	FINANCIAL ACCOUNTING II	4	0	8	FZ401	FINANCIAL MANAGEMENT	4	0	8
MA400	MATHEMATICS	4	0	8	IM405	BUSINESS FINANCIAL FRAMEWORK COMPARED FOREIGN COMMERCE	4	0	8
AD400	ADMINISTRATION	4	0	8	DE403	LEGISLATION	4	0	8
EC401	ECONOMY	4	0	8	DE404	INT'L BUSINESS LAW	4	0	8
CS401	THINKING SKILLS	4	0	8	HU401	MAN, HISTORY AND SOCIETY	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
FZ400	FINANCIAL ANALYSIS	4	0	8	AD411	INT'L COMMERCE ENTREPRENEURS	4	0	8
MA410	STATISTICS	4	0	8	FZ405	INTERNATIONAL FINANCES	4	0	8
	HUMAN RESOURCE								
RI400	MANAGEMENT	4	0	8	AD412	INT'L BUSINESS STRATEGIES	4	0	8
CS405	COMPARED CULTURES	4	0	8	EC403	INT'L MARKETING ANALYSIS	4	0	8
HU400	MAN AND ENVIRONMENT	4	0	8	HU402	MAN AND ETHICS	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
CO400	COSTS	4	0	8	AD413	INT'L BUSINESS SEMINAR	4	0	8
CC415	MANAGEMENT INFO. SYSTEMS	4	0	8	AD414	MULTINATIONAL CORPORATION PLANNING	4	0	8
MK400	MARKETING ADMINISTRATION	4	0	8	AD415	INT'L BUSINESS PROJECT BUSINESS, LOGISTICS, AND	4	0	8
DE401	LABOR LAW AND SOCIAL SECURITY	4	0	8	AD416	TRANSPORTATION	4	0	8
RI402	TRANSCULTURAL BEHAVIOR	4	0	8	AD417	INT'L PROMOTION STRATEGIES	4	0	8
		20	0	40			20	0	40

LNI BACHELOR OF ARTS IN INTERNATIONAL BUSINESS

FIRST SEMESTER

CB400 Financial Accounting I

This is the basis to know how to use the financial information of economic entities, beginning with the analysis of the reason and purpose of accounting, its legal basis and everything related to the accounting process and the register systems, supported by computer systems concluding with the formal elaboration of the Financial Statements.

PRE-REQUISIT:

AD410 Introduction to International Business

This course centers on the development of the ability to understand the bases and foundation of international business through its comprehension and knowledge, in order to allow students to have a vision from a professional perspective of this area, as well as to reinforce their vocational choice. Desarrollo de la capacidad de entender las bases y fundamentos de los negocios internacionales a través de su conocimiento y comprensión, de modo que le permitan tener una visión como profesionista en esta área y reafirmar su elección vocacional. The course includes having a deep understanding of the basic and specialized main topics that make part of the International Business curriculum. The course provides general knowledge on organizations and management, and their relation to the current environment (economic, culture, political, and social) emphasizing the placement of a company in an international context. It intends to introduce students to the functional areas of organizations from an integral and systematic point of view. This course is designed to introduce new students to campus life, to their new field of study, and to our institution.

PRE-REQUISIT:

DE400 Private Law

This course includes the study of Law, its importance, the different norms that regulate it, its sources, subjects of family law, and the classification of civil contracts. It also includes commercial acts, the elements of a commercial transaction, types of credit and different types of mercantile partnerships.

PRE-REQUISIT:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's.

PRE-REQUISIT:

SECOND SEMESTER

CB401 Financial Accounting II

In this course, students will reinforce the principles of accounting; apply the regulations stipulated in the C-3 bulletin, as well as the registers, valuation and presentation of inventory control, of Plant and Equipment property, of intangible assets, accounts payable, working capital and memorandum accounts.

PRE-REQUISIT: CB400 Financial Accounting I

MA400 Mathematics

This course is offered to all the students of Business, Administration or Engineering with the aim of providing basic mathematics to allow them to take the subsequent mathematics courses or the ones pertaining the axis of their professional formation. This course takes on the concepts of mathematical logic.

PRE-REQUISIT:

AD400 Administration

This course is incorporated into the Administration and Business curricula to introduce students to the study of organizations, their administration and evolution, the social and ethical responsibility of companies and businessmen. Understanding of the different functions of any organization –production, human resources, marketing, accounting and finances- as well as the different stages of the administration process –planning, organization, integration, direction and control, to facilitate the optimization of material, human, physic and financial resources involved in administration.

PRE-REQUISIT:

LNI BACHELOR OF ARTS IN INTERNATIONAL BUSINESS

EC401 Economics

This Economics course intends to provide students with the bases to understand the functioning of the economic system. In their professional lives as well from a social perspective, it is essential that students understand how economic science helps us make better decisions in the use of resources and as such, it will lead them to improved levels of economic well fare. From a microeconomic perspective, students are expected to understand the principles that rule a market's behavior. Whether it is as buyers or suppliers, we all participate in the market, and it is important to understand it in order to have a better performance and make efficient use of our resources. As for macroeconomic perspective, the objective is that students will be capable of analyzing the environment in which microeconomic decisions are made. It is also relevant for students to understand such important aspect as inflation, employment, mediation of economic activity and others, that will allow them to better understand their social reality.

Students must also be able to interpret the economic information published in the media and find their relation with the economic theory, in way in which they can build and interpretation of their economic and social reality. The study of macroeconomics must provide the student with a perspective on how society can improve its economic well-being long-term, not only through short-term economic stabilization.

PRE-REQUISIT:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

FZ400 Financial Analysis

This course analyzes and interprets information from financial statements in order to evaluate operating results, company assets and debt statements, and the current situation of the contributed and earned capital from each partner, changes that have taken place and their cause of origin.

PRE-REQUISIT: CB401 Financial Accounting II

MA407 Statistics

Statistics provides indispensable tools for the recollection, treatment and analysis of relevant and important information that any decision-making process requires in order to be effective. With the support of computer systems, nowadays Statistics is not only for specialists or high budget companies. Today any business or individual can carry out successful statistical studies, no matter what field of study it is dealing with. That is to say, it applies to Engineering, Management, in business, Social Studies, etc. This course includes a theoretical as well as a practical formation, and deals with two main topics: Descriptive Statistics and Inferential Statistics related to the theory of probability. Statistics is part of the core knowledge that any professional should possess and its contents are indispensable to any the rest of the courses that make up the curriculum of our various majors.

PRE-REQUISIT:

RI400 Human Resources Administration

This course provides an overview of the discipline of Human Resources management, its functions, its importance and reach, as well as the diverse techniques and tools used to contribute to the efficiency and effectiveness of an organization.

PRE-REQUISIT:

CS405 Compared Cultures

This course allows students to get to know the continents that make up the Earth, understanding the nature of their cultures in the most important regions of the world, allowing them this way to manage and evaluate their current condition in order to be able to relate to them in an international environment.

PRE-REQUISIT:

LNI BACHELOR OF ARTS IN INTERNATIONAL BUSINESS

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments.

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression.

PRE-REQUISIT: [CS403 Culture I](#)

FOURTH SEMESTER

CO400 Costs

This course focuses on the practical application of accounting concepts in the process of industrial production, with the objective of controlling operations, generating information and knowing the unit cost of a product, and hence, the cost of inventory and earnings in a company, in order to achieve an efficient Management of a company's costs. This course is aimed at all the business majors, as part of the core curriculum of Administration and Business.

PRE-REQUISIT: [CB400 Financial Accounting I](#) and [CB401 Financial Accounting II](#)

CC415 Managerial Information Systems

During this course we will first analyze the importance of Organizational Information Systems and their future tendencies, and then later analyze the technological aspects that are directly related to their operation. Finally, the requirements to build modern Organizational Information Systems will be determined, and we will continue with topics related to Support System Management and Organization for Decision-making, and finishing with contemporary Information System management topics.

PRE-REQUISIT:

MK400 Marketing Administration

The Marketing Administration course is a theoretical-practical course where students learn the fascinating world of Marketing. They will learn the definition of Marketing, its reach and its application in companies working in the market. They will learn and develop a Marketing mix to solve problems in the different branches of business.

PRE-REQUISIT:

DE401 Labor Law and Social Security

During this course students will study, within Labor Law, work relations, work conditions, rights and obligations of employers and workers, work relations of women and minors, as well as the different regimens for Social Security law in relation to calculating how much an employer must pay Social Security, obligations of employers in case of work accidents or sick leaves, etc.

PRE-REQUISIT:

LNI BACHELOR OF ARTS IN INTERNATIONAL BUSINESS

RI402 Transcultural Behavior

This course is intended for students to understand the Continents that make up our planet, nature and its cultures, based on the most important religions in the World. With this, students are expected to manage and assess their current status with the purpose of being able to relate to others in an international context.

PRE-REQUISIT:

FIFTH SEMESTER

CB402 Administrative Accounting

This course is the practical application of Cost Accounting and Decision Making, and includes the study of the following topics: The Cost-Volume-Revenue relation, Marginal Analysis for short-term business decisions and Cost Management, using contemporary register and cost analysis methods and philosophies.

PRE-REQUISIT: CB400 Financial Accounting I; CB401 Financial Accounting II; AD400 Administration and CO400 Costs

MK417 International Marketing

This course is intended to generate an appreciation of the main concepts and theories of product and service marketing in a global market, as well as to develop abilities to recognize, select, and establish strategies and implement programs to promote products and services in the global market. Students will have the opportunity to develop their International Marketing skills applying these concepts and techniques to problems that are present in the international market.

PRE-REQUISIT:

EC402 International Commerce and Customs

At the end of this course, students will analyze the foundations of international commerce, the theory of tariffs, economic blocks, commercial treaties of Mexico and their impact on economic development, and knowledge of acts and procedures that are necessary to import and export merchandise, as well as practicing defense and punishment sources that are established by law for the area of customs.

PRE-REQUISIT:

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well as a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

SIXTH SEMESTER

FZ401 Financial Management

This course sets the foundation for Financial Management, guiding students to understand the importance of finance in a company and their environment. Also known as Working Capital Management or Financial Management Fundamentals, this course provides the tools to analyze alternatives applicable in a short-term, classified within Current Assets and Liabilities.

Frameworks such as a cash budget, the different types of short-term investments in the Financial System, the changes in credit policies, the establishment of optimum amounts of inventory, and short-term financing options are some of the most relevant topics for this course. This is mainly a practical course that will require the constant use of a financial calculator, electronic worksheets, and, most of all, extensive reading on topics provided in the bibliography.

PRE-REQUISIT:

IM405 Business Financial Framework

This course is basic for a Bachelor in International Business, due to the following:

1. In the world of business we can state, as an example, not necessarily in a specialized manner, that the most important areas should be Management and Organization, Accounting, Taxes, Auditing, and Finance.
2. Within the areas mentioned above, it can be said that one of the most important ones, or maybe the most important one is the fiscal area (taxes).



3. Within the fiscal area we can find taxes, which every company or business must pay, an area in which a Bachelor in International Business can perform.
4. The name of this subject is Compared Law, although the main topic is the study of Mexican Fiscal Law for residents living abroad and obtain their earnings from our national territory, topic which a Bachelor in International Business must study.

PRE-REQUISIT:

DE403 Compared Foreign Commerce Legislation

This course will develop in students a solid understanding of the regulations of foreign trade that allows them to understand the diverse economic scenarios available to Mexico, North America, Latin America, Asia, and Europe in light of treaties and agreements subscribed by this country, as well as all internal regulations that are related with International commerce in order to carry out acts of commerce that are related with imports and exports in all matters of foreign trade.

PRE-REQUISIT:

DE404 International Law

This course will develop in students an understanding of the aspects of private and public international law, covering the most common agreements in the matter of international commerce, international transactions, and conflict resolutions through arbitration.

PRE-REQUISIT:

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' college students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

SEVENTH SEMESTER

AD411 International Commerce Entrepreneurs

The objective of this course is to promote and develop an entrepreneurial spirit, fomenting leadership and team work; identify the competencies of an entrepreneur, providing knowledge through the creation of a business plan to put together a young company, in which they will apply their acquired knowledge to determine the best strategies in the areas of Human Resources, Marketing, Finance, Production and General Management, giving them the experience of creating their own company while motivating organization, working under pressure and in a healthy environment for the development of entrepreneurial abilities.

PRE-REQUISIT:

FZ405 International Finance

During this course, students will analyze the decision-making process that derives from international operations, Exchange rates, investments, financing and its repercussions in different types of balance of payments, in the frame of the international monetary system, financial markets, and merchandise markets and future values, as a fundamental part of the globalization and internationalization process of Mexican corporations.

PRE-REQUISIT:

AD412 International Negotiation Strategies

The object of this course is to develop negotiation abilities in International Business, since they will be dealing with customers, suppliers, distributors, partners, etc. from other countries. Students will be given the strategies and techniques necessary to respond to the main questions that negotiations between companies from different countries ask.

PRE-REQUISIT:

EC403 Analysis of International Markets

This course is theoretical- practical and focuses on the detailed description of each of the phases of the market research process knowing the law and culture of other countries, from a research nature and objective with an international focus, the utilized techniques for the attainment of data, the design of questionnaires in other languages, the design of a sample, processing, analysis and interpretation of information, until the elaboration of documents and executive reports with a multinational focus.

It is related to the subjects of international marketing, research methodology, international commerce and customs, international finance, international business planning, as well as with the statistical tools for the processing and analysis of market data in order for students to understand and handle the results of qualitative and quantitative research and can elaborate administrative strategies to support their decision-making with an international focus.

It exposes and applies diagnosing techniques for international problems, and develops abilities to carry out market research in other countries. It is demanded that students know and apply of qualitative and quantitative application techniques with the objective of being in a position to solve international marketing problems, and that through the development of creative thinking; they acquire the abilities to diagnose, analyze, comprehend, evaluate and apply information in markets with different cultures.

PRE-REQUISIT:

HU402 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty,

with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

EIGHTH SEMESTER

AD413 International Business Seminar

This course incorporates to the process of strategic planning the elements that influence the international environment of a company to establish a base on which decision making will be carried out respecting the strategies of international market entrance and the management strategies of international companies to take advantage of opportunities offered in a global environment.

This course is presented with a practical and integral focus, taking the knowledge students have acquired through out the courses they have taken as a base; it promotes critical thinking in students, the development of problem solving abilities, creativity and innovation to implement actions that will lead an international company to be more efficient in its use of resources and more effective in reaching its objectives. This study will be based on the analysis of real cases, development of research, presentations, practical simulations, and the generation of a final project.

PRE-REQUISIT:

AD414 Multinational Corporation Planning

This course is composed of the integration of various courses, such as a company's finance, the analysis of a company's environment, to establish a proposal of change that will lead the company to be more competitive.

This course presents students with readings of the topics, their comprehension, and it also presents the need to elaborate tasks, solve very specific cases and work on a company's particular situation, observing its reality and applying the tools given in each of the units, in order to elaborate a concrete application project at the end of the course.

PRE-REQUISIT:

AD415 International Business Project

Students have the necessary tools to begin the creation of a Business Project, from pre investment to carrying it out, always intending that the learning be practical.

Also, a fundamental part of this course is for students to know the processes of export, in order for the project to be focused toward the exterior and search for an alternative for international businesses.

The object is for students to know the general context of an international environment, the different areas that are managed to be able to carry out business projects, always looking to carrying it out according to the phases this requires. Also, know the institutions and agreements that can help as support to carry out this project.

Students must carry out a real international business project.

PRE-REQUISIT:

AD416 Business, Logistics and Transportation

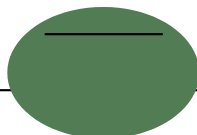
This is a theoretical-practical course that, together with the previous knowledge provided by the International Business curriculum, develops in students the capacity for analysis and management of logistic activities in a company. It provides students with the knowledge and tools that allow them to generate logistic strategies, understanding the nature and importance of the product, order procedures, information systems and transportation, as well as the international considerations to place products in diverse markets in the best way possible in less time. This course is designed, not only to provide students with knowledge, but also to carry out research and projects in companies within the areas related to logistics, purchasing and transportation.

PRE-REQUISIT:

AD417 International Marketing Strategy

This focuses on the principles of international marketing communication. It includes an emphasis on global publicity, strategies and executions, opportunities in the international media, research, culture, and legal aspects

PRE-REQUISIT:



LAM MARKETING ADMINISTRATION

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
CB400	FINANCIAL ACCOUNTING I	4	0	8	CB402	ADMINISTRATIVE ACCOUNTING	4	0	8
DE400	PRIVATE LAW	4	0	8	MK405	CONSUMER'S BEHAVIOR	4	0	8
MK402	INTRO TO MARKETING	4	0	8	MK406	ADVERTISING	4	0	8
CS400	ADVANCED COMM. IN SPANISH	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
EC400	GLOB. AND ECON. DEVELOPMENT	4	0	8	ID400	ADVANCED COMM. IN ENGLISH	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
CB401	FINANCIAL ACCOUNTING II	4	0	8	FZ401	FINANCIAL MANAGEMENT	4	0	8
MA400	MATHEMATICS	4	0	8	MK407	MARKETING STRATEGIES	4	0	8
AD400	ADMINISTRATION	4	0	8	MK408	MARKET RESEARCH	4	0	8
EC401	ECONOMY	4	0	8	MK409	DETAILED MARKETING	4	0	8
CS401	THINKING SKILLS	4	0	8	HU401	MAN, HISTORY AND SOCIETY	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
FZ400	FINANCIAL ANALYSIS	4	0	8	AD402	ENTREPRENEURIAL DEVELOPMENT DEV. OF NEW PRODUCTS AND	4	0	8
MA410	STATISTICS	4	0	8	MK410	BRANDS	4	0	8
MK400	MARKETING ADMINISTRATION	4	0	8	MK411	SALES PROMOTION AND PR ADMINISTRATION AND SALES	4	0	8
CC415	MANAGEMENT INFO SYSTEMS	4	0	8	MK412	PROCESS	4	0	8
HU400	MAN AND ENVIRONMENT	4	0	8	HU402	MAN AND ETHICS	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
CO400	COSTS HUMAN RESOURCE	4	0	8	MK413	MARKETING SEMINAR INDUSTRIAL AND SERVICES	4	0	8
RI400	MANAGEMENT	4	0	8	MK414	MARKETING	4	0	8
DE401	LABOR LAW AND SOCIAL SECURITY	4	0	8	MK415	MARKETING DECISION MAKING	4	0	8
MK403	MARKETING INTEGRAL COM.	4	0	8	MK416	INTERNET MARKETING	4	0	8
MK404	VISUAL MARKETING	4	0	8	MK417	INTERNATIONAL MARKETING	4	0	8
		20	0	40			20	0	40

FIRST SEMESTER

CB400 Financial Accounting I

This is the basis to know how to use the financial information of economic entities, beginning with the analysis of the reason and purpose of accounting, its legal basis and everything related to the accounting process and the register systems, supported by computer systems concluding with the formal elaboration of the Financial Statements.

PRE-REQUISIT:

MK402 Introduction to Marketing

This course, as fascinating as this discipline, responds to the following questions: What is Marketing?, Which are the dimensions of this discipline?, What is the field of work for a Marketer?, What kind of activities do they carry out?, among others. Topic on this discipline and their relation to the field of work are approached. The University's academic topics for the better performance of students are discussed. When talking about Marketing, one thinks of market research, product development, brands; in the more glamorous area of marketing: Publicity, the effects of consumer behavior, the importance of shapes (perfumes) and colors (sports cars) in the creation of successful commercial campaigns. To understand Marketing is to understand the Consumer... their desires, their needs in order to develop satisfactors (such as Brands and products) for these people. Marketing tends to people; the work of a marketer involves research, statistics, publicity, strategy design, in brands, in planning, organization and client retention, in sales... it overall includes the birth of a product (service or idea) all the way through a post sale service once the client has approved. Marketing, as Philip Kotler states, develops in the following dimensions: One, identify the Client: two, attract the Client and, three, retain the Client.

PRE-REQUISIT:

DE400 Private Law

This course includes the study of Law, its importance, the different norms that regulate it, its sources, subjects of family law, and the classification of civil contracts. It also includes commercial acts, the elements of a commercial transaction, types of credit and different types of mercantile partnerships.

PRE-REQUISIT:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's.

PRE-REQUISIT:

SECOND SEMESTER

CB401 Financial Accounting II

In this course, students will reinforce the principles of accounting; apply the regulations stipulated in the C-3 bulletin, as well as the registers, valuation and presentation of inventory control, of Plant and Equipment property, of intangible assets, accounts payable, working capital and memorandum accounts

PRE-REQUISIT: CB400 Financial Accounting I

MA400 Mathematics

This course is offered to all the students of Business, Administration or Engineering with the aim of providing basic mathematics to allow them to take the subsequent mathematics courses or the ones pertaining the axis of their professional formation. This course takes on the concepts of mathematical logic.

PRE-REQUISIT:

LAM MARKETING ADMINISTRATION

AD400 Administration

This course is incorporated into the Administration and Business curricula to introduce students to the study of organizations, their administration and evolution, the social and ethical responsibility of companies and businessmen. Understanding of the different functions of any organization –production, human resources, marketing, accounting and finances- as well as the different stages of the administration process –planning, organization, integration, direction and control, to facilitate the optimization of material, human, physic and financial resources involved in administration.

PRE-REQUISIT:

EC401 Economics

This Economics course intends to provide students with the bases to understand the functioning of the economic system. In their professional lives as well from a social perspective, it is essential that students understand how economic science helps us make better decisions in the use of resources and as such, it will lead them to improved levels of economic well fare. From a microeconomic perspective, students are expected to understand the principles that rule a market's behavior. Whether it is as buyers or suppliers, we all participate in the market, and it is important to understand it in order to have a better performance and make efficient use of our resources. As for macroeconomic perspective, the objective is that students will be capable of analyzing the environment in which microeconomic decisions are made. It is also relevant for students to understand such important aspect as inflation, employment, mediation of economic activity and others that will allow them to better understand their social reality.

Students must also be able to interpret the economic information published in the media and find their relation with the economic theory, in way in which they can build and interpretation of their economic and social reality. The study of macroeconomics must provide the student with a perspective on how society can improve its economic well-being long-term, not only through short-term economic stabilization.

PRE-REQUISIT:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

FZ400 Financial Analysis

Once students have accredited Financial Accounting II CB401, where they get to know the accounting process and analyze the most widely accepted principles of accounting, as well as the particular rules for valuation and presentation of different concepts that integrate the financial statements, it is time to analyze and interpret the information contained in them, to assess operating results, company assets and debt statements, and the current situation of the contributed and earned capital from each partner, changes that have taken place and their cause of origin.

PRE-REQUISIT:

MA407 Statistics

Statistics provides indispensable tools for the recollection, treatment and analysis of relevant and important information that any decision-making process requires in order to be effective. With the support of computer systems, nowadays Statistics is not only for specialists or high budget companies. Today any business or individual can carry out successful statistical studies, no matter what field of study it is dealing with. That is to say, it applies to Engineering, Management, in business, Social Studies, etc. This course includes a theoretical as well as a practical formation, and deals with two main topics: Descriptive Statistics and Inferential Statistics related to the theory of probability. Statistics is part of the core knowledge that any professional should possess and its contents are indispensable to any the rest of the courses that make up the curriculum of our various majors

PRE-REQUISIT:

LAM MARKETING ADMINISTRATION

MK400 Marketing Administration

The Marketing Administration course is a theoretical-practical course where students learn the fascinating world of Marketing. They will learn the definition of Marketing, its reach and its application in companies working in the market. They will learn and develop a Marketing mix to solve problems in the different branches of business.

PRE-REQUISIT:

CC415 Managerial Information Systems

During this course we will first analyze the importance of Organizational Information Systems and their future tendencies, and then later analyze the technological aspects that are directly related to their operation. Finally, the requirements to build modern Organizational Information Systems will be determined, and we will continue with topics related to Support System Management and Organization for Decision-making, and finishing with contemporary Information System management topics

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISIT: [CS403 Culture I](#)

FOURTH SEMESTER

CO400 Costs

This course focuses on the practical application of accounting concepts in the process of industrial production, with the objective of controlling operations, generating information and knowing the unit cost of a product, and hence, the cost of inventory and earnings in a company, in order to achieve an efficient Management of a company's costs. This course is aimed at all the business majors, as part of the core curriculum of Administration and Business.

PRE-REQUISIT: [CB400 Financial Accounting I](#) and [CB401 Financial Accounting II](#)

RI400 Human Resources Administration

This course provides an overview of the discipline of Human Resources management, its functions, its importance and reach, as well as the diverse techniques and tools used to contribute to the efficiency and effectiveness of an organization.

PRE-REQUISIT:

LAM MARKETING ADMINISTRATION

DE401 Labor Law and Social Security

During this course students will study, within Labor Law, work relations, work conditions, rights and obligations of employers and workers, work relations of women and minors, as well as the different regimens for Social Security law in relation to calculating how much an employer must pay Social Security, obligations of employers in case of work accidents or sick leaves, etc.

PRE-REQUISIT:

MK403 Marketing Integral Communication

In this course we will approach topics such as the Functional-Illiterate, la Verbal to Visual Generation, and Perception is more important than reality... we will talk about a topic that authors of a classic book mention: "All Marketing is Communication, and almost all communication can be marketing..." When reviewing Marketing texts from before the 1990's, when arriving to the letter "P" you will find Promotion as part of the Marketing mix, with four instruments for the Promotional Mix: Publicity, Personal Sales, Public Relations, and Sales Promotion. From 1992 you will find the same instruments of communication un the name of Marketing Integral Communication... Why? Companies used to perform their tasks separately; sales people attacked their market while the creative team launched glamorous publicity campaigns in the mass media; others worked with beautiful models in press conferences. Each one working from their side with a concept and idea that seemed as if there were four different campaigns; the focus was unilateral, the efforts were separated... They soon realized they has to get to know their target audience, what motivates them, which is the best method to establish a relationship... Marketing Integral Communication was born: Two-way messages, with feedback and integrating the tools of communication.

PRE-REQUISIT:

MK404 Visual Marketing

Marketing and Graphic Design work as a team to achieve the visual communication pieces and campaigns that make it possible to reach the goals outlined in marketing programs. This course intends to understand the Design discipline, understand its importance and work in teams to achieve results, looking for a balance between marketing that looks for optimum results and design who emphasizes esthetics.

PRE-REQUISIT:

FIFTH SEMESTER

CB402 Administrative Accounting

This course is the practical application of Cost Accounting and Decision Making, and includes the study of the following topics: The Cost-Volume-Revenue relation, Marginal Analysis for short-term business decisions and Cost Management, using contemporary register and cost analysis methods and philosophies.

PRE-REQUISIT: CB400 Financial Accounting I; CB401 Financial Accounting II; AD400 Administration and CO400 Costs

MK406 Advertising

During this course we will discuss and learn about Advertising, promotional mix tool (today Marketing Integral Communication), for which excellent books dedicated to Advertising exclusively can be found due to its size and dimension: from "Positioning" by Al Ries and Jack Trout, the inside details of the discipline with David Ogilvy (Confessions and Ogilvy On Advertising), to George Lois in "The Great Idea", as well as new titles about the importance of results with Sergio Zyman (The End of Advertising As We Know It) and new tendencies with Al Ries (The Fall of Advertising and the Rise of RRPP). Advertising faces interesting challenges: Creativity... some times confused with technology, with Full-Color, with having a budget, with special effects.... The Media... before, a Marketer would be concerned with three TV chains, some radio stations, and a dozen or so newspapers... Today, we are flooded by the media and media vehicles.

PRE-REQUISIT:

MK405 Consumer Behavior

People's Behavior is a fundamental variable in Marketing Strategies for the launching of new products and advertising campaigns. Why do the prefer red? Why is it one brand is preferred over another? How come people pay 30% more for a certain product? These are some of the questions this discipline intends to answers in order to tend to Clients better... This topic is fascinating, and leans on Anthropology, Psychology, and Sociology in order to observe the consumer... the consumer, who is the key piece in designing a business that wants to be profitable.

PRE-REQUISIT:

LAM MARKETING ADMINISTRATION

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

SIXTH SEMESTER

FZ401 Financial Management

This course sets the foundation for Financial Management, guiding students to understand the importance of finance in a company and their environment. Also known as Working Capital Management or Financial Management Fundamentals, this course provides the tools to analyze alternatives applicable in a short-term, classified within Current Assets and Liabilities.

Frameworks such as a cash budget, the different types of short-term investments in the Financial System, the changes in credit policies, the establishment of optimum amounts of inventory, and short-term financing options are some of the most relevant topics for this course. This is mainly a practical course that will require the constant use of a financial calculator, electronic worksheets, and, most of all, extensive reading on topics provided in the bibliography

PRE-REQUISIT:

MK407 Marketing Strategies

This course intends to develop in students a solid understanding of the systematic procedure of analyzing, planning, and implementing marketing strategies that match with the functional areas of profitable or non-profitable organization, with the objective of establishing long-term relationships with clients and consumers.

PRE-REQUISIT:

MK408 Market Research

This course is placed in sixth semester of the Marketing major, it is theoretical-practical where different market research designs and data recollection methods are conceptualized and analyzed. It relates to other courses such as marketing, research methodology, and statistical tools to analyze and interpret qualitative and quantitative research results in order to elaborate management strategies and decision making from a scientific focus. Problem diagnosing techniques are applied, and negotiation abilities are developed. Students will apply techniques for the analysis of qualitative and quantitative data in order to find solutions to marketing problems, fomenting creative thinking, diagnosing abilities, analysis, comprehension, assessment and application of qualitative and quantitative information and statistics in the market, as well as the ability to negotiate.

PRE-REQUISIT:

MK409 Detailed Marketing

This course deals with the final consumer, the client, who acquires the product for its consumption; who decides if the store stays in business the following month... Students will talk about the experience of a client as exposed by Tom Peters in various publications, as well as Paco Underhill's science of purchase, Seth Godin's question about whether we have a business that marvels, and even the dimensions of a brick business or one sustained by computer bytes.

PRE-REQUISIT:

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

LAM MARKETING ADMINISTRATION

SEVENTH SEMESTER

AD402 Entrepreneurial Development

The objective of this course is to promote and develop an entrepreneurial spirit, fomenting leadership and team work; identify the competencies of an entrepreneur, providing knowledge through the creation of a business plan to put together a young company, in which they will apply their acquired knowledge to determine the best strategies in the areas of Human Resources, Marketing, Finance, Production and General Management, giving them the experience of creating their own company while motivating organization, working under pressure and in a healthy environment for the development of entrepreneurial abilities.

PRE-REQUISIT:

MK410 Development of New Products and Brands

This course deals with the dimension of a product and brand. In its first stage, the product is studied: its elements, characteristics, and levels; the design of product strategies according to its portfolio, a product's life cycle, its development phases, and new ways of innovation and development. During the second stage, the brand, also known as the topic of Branding, is deeply analyzed, from its importance, characteristics, strategy development, and its measurement. Understanding the discipline of new product and brand development.

This refers to the planning and development process for new products; its implications at a corporate level as well as a business unit; the analysis, organization, and maintenance of business portfolios; knowing the importance of a brand as an asset and strategic tool to improve the performance of a business; understanding the position of product and brand manager; develop abilities that will allow for the development of strategies and tactics in both disciplines.

PRE-REQUISIT:

MK412 Administration and Sales Process

This course deals with the theory and practice of personal sales and how this is used by organizations to achieve the company's economic objectives and to develop a long term partnership with costumers; this course emphasizes on the planning, organization and control of the sales force and sales operations. This course intends to: Develop a solid understanding of the activities of marketing's oldest and basic activity: Sales. Develop a solid body of knowledge regarding sales force management, sales operations and the managing of the sales process or art of selling. Regarding sales force management, this course covers its recruiting, selection, training, motivation, remuneration and fee assignation and performance measurement. Considering sales operations this course is interested in sales control and planning, covering problems of potential, sales penetration, prediction, management of sales territory. Regarding sales process, this course covers what is included in sales since client prospecting to procedures after the sales closing.

PRE-REQUISIT:

MK411 Sales Promotion and Public Relations

This course starts with the mix of promotion, understanding the tools that the company has to develop its communication campaigns and to promote sales. Advertising, Personal Sale, Public Relations and Sales Promotion are the tools of promotional mix; in this course the last two instruments are covered. Knowing the key concepts and developing skills to develop complete campaigns in each one of the disciplines.

Which are the Sales Promotion Tools, why the applicability? How can advertising be paid without the insertion in the media? How to write a press bulletin? What are the secrets to a successful press conference? These are some of the topics included in this interesting and dynamic theoretical-practical course.

PRE-REQUISIT:

HU402 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

EIGHTH SEMESTER

MK413 Marketing Seminar

This is a theoretical-practical course that covers the Marketing scenarios and their application. It is also a space to study the current topics that were not covered in other marketing courses. It covers marketing situations, develops marketing plans and their assessment carefully considering their antecedents including tendencies and emerging models. The course tries: To understand the dimension and role of the participants in marketing applied in different scenarios; to understand the models and relations in the application of marketing plans; to develop skills that allow them to design marketing programs in different situations.

PRE-REQUISIT:

MK414 Industrial and Services Marketing

This course intends to:

Understand the industrial and services marketing disciplines. Develop skills that allow the full development for the two disciplines. Develop a solid understanding of the activities of the industrial sales and services function and employ this structure because time confirms their value.

Apply the industrial and Services marketing theoretical concepts, experiencing the social and administrative process through which groups and individuals obtain what they need and desire through the generation, offering and exchange of products and values for others.

Learn to identify the necessities, desires and demands in and out of the society and to use exchange and transmission techniques in a practical way for the commercialization of goods and services.

Acquire the minimal necessary knowledge about marketing and services tools, as well as to develop a marketing study and research for the development of a new service or its improvement for a SMB.

PRE-REQUISIT:

MK415 Marketing Decision Making

During this course:

Students will develop a solid understanding of the importance of qualitative methods in the solution to problems encountered in marketing management.

They will develop a solid knowledge on the foundations of the theory of decisions in situations in which this is applied to the problems in the marketing area.

Students will know the different criteria selection for the most used alternatives in the theory of decisions, working under risk and uncertainty conditions.

They will cover the most relevant decisions in the mixture of marketing and other marketing topics.

PRE-REQUISIT:

MK416 Internet Marketing

This is a hybrid course, administered on-line through Blackboard and in the classroom. It provides a general overview of the most important elements that make up the broad concept of e-commerce and Internet Marketing. It focuses on the design of advertising projects and programs for communication campaigns in the Internet, the analysis of building a website and other marketing tools. It also examines the process of a marketing plan through the internet, from research, its design, assessment and control of the different marketing strategies in the digital era. Specific topics that are relevant to e-commerce, such as security, legislations, and electronic payments are discussed.

A web page will be developed as a final project, according a marketing plan on the web. This course is related to international marketing, consumer behavior and managerial information systems.

PRE-REQUISIT:

MK417 International Marketing

Develop a solid understanding of the marketing activities from a global perspective, revising the elements of the discipline from the basis of planning, cultural analysis of the surroundings in relation with world geography and the multimarket as development opportunities.

PRE-REQUISIT:

LAS SERVICE MANAGEMENT

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
CB400	FINANCIAL ACCOUNTING I	4	0	8	CB402	ADMINISTRATIVE ACCOUNTING	4	0	8
DE400	PRIVATE LAW INTRO TO SERVICE	4	0	8	MK405	CONSUMER'S BEHAVIOR	4	0	8
MK402	MANAGEMENT AD421T	4	0	8	AD423	MAPPING PROCESSES	4	0	8
CS400	ADVANCED COMM. IN SPANISH	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
EC400	GLOB. AND ECON. DEVELOPMENT	4	0	8	HU400	MAN AND ENVIRONMENT	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
CB401	FINANCIAL ACCOUNTING II	4	0	8	FZ401	FINANCIAL MANAGEMENT	4	0	8
MA400	MATHEMATICS	4	0	8	AD424	SERVICE OPERATION MANAGEMENT II	4	0	8
AD400	ADMINISTRATION	4	0	8	MK420	INT'L SERVICES MARKETING	4	0	8
EC401	ECONOMY	4	0	8	AD425	QUALITY SERVICE MANAGEMENT	4	0	8
CS401	THINKING SKILLS	4	0	8	HU401	MAN, HISTORY AND SOCIETY	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
FZ400	FINANCIAL ANALYSIS	4	0	8	AD402	ENTREPRENEURIAL DEVELOPMENT	4	0	8
MA410	STATISTICS	4	0	8	AD426	BUSINESS	4	0	8
MK400	MARKETING ADMINISTRATION	4	0	8	AD427	CUSTOMER SERVICE SYSTEMS	4	0	8
CC415	MANAGEMENT INFO SYSTEMS ADVANCED COMMUNICATION IN	4	0	8	AD428	SUPPLY CHAIN MANAGEMENT	4	0	8
ID400	ENGLISH	4	0	8	HU402	MAN AND ETHICS	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
CO400	COSTS	4	0	8	AD429	ASSESSMENT SERVICE SYSTEM	4	0	8
RI400	HUMAN RESOURCE MANAGEMENT	4	0	8	AD430	SERVICE SYSTEMS MANAGEMENT	4	0	8
DE401	LABOR LAW AND SOCIAL SECURITY	4	0	8	AD431	LOGISTICS STRATEGIC MANAGEMENT CONTEMPORARY SERVICE	4	0	8
AD422	SERVICE OPERATION MANAGEMENT I	4	0	8	AD432	MANAGEMENT ELECTIVE	4	0	8
MK418	SERVICE MARKETING	4	0	8			4	0	8
		20	0	40			20	0	40

LAS SERVICE MANAGEMENT

FIRST SEMESTER

CB400 Financial Accounting I

This is the basis to know how to use the financial information of economic entities, beginning with the analysis of the reason and purpose of accounting, its legal basis and everything related to the accounting process and the register systems, supported by computer systems concluding with the formal elaboration of the Financial Statements.

PREREQUISIT

AD421 Introduction to the Bachelor of Arts in Service Management

Students develop the capacity to understand the bases and fundamentals of service management through knowledge and understanding, in a way that it enables them to have a vision of the kind of professional they will be and confirm their vocational decision. They will obtain knowledge on the objectives and applications of the main basic and specialized courses that form the program of the Bachelor of Arts in Service Management. They will get to know the structure of CETYS University, its mission, vision, fields, learning areas, norms, policies, regulations, as well as the academic and extracurricular activities that will provide students holistic training, knowledge of the aspects that have to do with international programs, social service, professional practices, language requisites, as well as the different opportunities of development in the academic, cultural, sports, and personal areas, which students have at CETYS. A link among students is sought, so they incorporate themselves into the Bachelor of Arts in Service Management with their Dean, thus having a more open communication, a spirit of companionship, and teamwork that helps them adapt to this undergraduate program easier, as well as developing group work. This course is designed, not just to introduce first semester students to the new university life, the discovery of their vocation, and introduction to the institution, but to provide general knowledge on the basis, origin, evolution, and functions of Service Management, making special emphasis on the application areas within all kinds of organizations.

PRE-REQUISITE:

DE400 Private Law

This course includes the study of Law, its importance, the different norms that regulate it, its sources, subjects of family law, and the classification of civil contracts. It also includes commercial acts, the elements of a commercial transaction, types of credit and different types of mercantile partnerships.

PRE-REQUISIT:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PREREQUISIT

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:

SECOND SEMESTER

CB401 Financial Accounting II

In this course, students will reinforce the principles of accounting; apply the regulations stipulated in the C-3 bulletin, as well as the registers, valuation and presentation of inventory control, of Plant and Equipment property, of intangible assets, accounts payable, working capital and memorandum accounts

PRE-REQUISIT:CB400FinancialAccounting I

MA400 Mathematics

This course is offered to all the students of Business, Administration or Engineering with the aim of providing basic mathematics to allow them to take the subsequent mathematics courses or the ones pertaining the axis of their professional formation. This course takes on the concepts of mathematical logic.

PREREQUISIT

AD400 Administration

This course is incorporated into the Administration and Business curricula to introduce students to the study of organizations, their administration and evolution, the social and ethical responsibility of companies and businessmen. Understanding of the different functions of any organization –production, human resources, marketing, accounting and finances- as well as the different stages of the administration process –planning, organization, integration, direction and control, to facilitate the optimization of material, human, physic and financial resources involved in administration.

PREREQUISIT

EC401 Economics

This Economics course intends to provide students with the bases to understand the functioning of the economic system. In their professional lives as well from a social perspective, it is essential that students understand how economic science helps us make better decisions in the use of resources and as such, it will lead them to improved levels of economic well fare. From a microeconomic perspective, students are expected to understand the principles that rule a market's behavior. Whether it is as buyers or suppliers, we all

participate in the market, and it is important to understand it in order to have a better performance and make efficient use of our resources. As for macroeconomic perspective, the objective is that students will be capable of analyzing the environment in which microeconomic decisions are made. It is also relevant for students to understand such important aspect as inflation, employment, mediation of economic activity and others, that will allow them to better understand their social reality. Students must also be able to interpret the economic information published in the media and find their relation with the economic theory, in way in which they can build and interpretation of their economic and social reality. The study of macroeconomics must provide the student with a perspective on how society can improve its economic well-being long-term, not only through short-term economic stabilization.

PREREQUISIT

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PREREQUISIT

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

FZ400 Financial Analysis

Once students have accredited Financial Accounting II CB401, where they get to know the accounting process and analyze the most widely accepted principles of accounting, as well as the particular rules for valuation and presentation of different concepts that integrate the financial statements, it is time to analyze and interpret the information contained in them, to assess operating results, company assets and debt statements, and the current situation of the contributed and earned capital from each partner, changes that have taken place and their cause of origin.

PRE-REQUISIT:

MA407 Statistics

Statistics provides indispensable tools for the recollection, treatment and analysis of relevant and important information that any decision-making process requires in order to be effective. With the support of computer systems, nowadays Statistics is not only for specialists or high budget companies. Today any business or individual can carry out successful statistical studies, no matter what field of study it is dealing with. That is to say, it applies to Engineering, Management, in business, Social Studies, etc. This course includes a theoretical as well as a practical formation, and deals with two main topics: Descriptive Statistics and Inferential Statistics related to the theory of probability. Statistics is part of the core knowledge that any professional should possess and its contents are indispensable to any the rest of the courses that make up the curriculum of our various majors

PRE-REQUISIT:

MK400 Marketing Administration

The Marketing Administration course is a theoretical-practical course where students learn the fascinating world of Marketing. They will learn the definition of Marketing, its reach and its application in companies working in the market. They will learn and develop a Marketing mix to solve problems in the different branches of business.

PRE-REQUISIT:

CC415 Managerial Information Systems

During this course we will first analyze the importance of Organizational Information Systems and their future tendencies, and then later analyze the technological aspects that are directly related to their operation. Finally, the requirements to build modern Organizational Information Systems will be determined, and we will continue with topics related to Support System Management and Organization for Decision-making, and finishing with contemporary Information System management topics

PRE-REQUISIT:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER

CO400 Costs

This course focuses on the practical application of accounting concepts in the process of industrial production, with the objective of controlling operations, generating information and knowing the unit cost of a product, and hence, the cost of inventory and earnings in a company, in order to achieve an efficient Management of a company's costs. This course is aimed at all the business majors, as part of the core curriculum of Administration and Business.

PRE-REQUISIT: CB400 Financial Accounting I and CB401 Financial Accounting II

RI400 Human Resources Administration

This course provides an overview of the discipline of Human Resources management, its functions, its importance and reach, as well as the diverse techniques and tools used to contribute to the efficiency and effectiveness of an organization.

PRE-REQUISIT:

DE401 Labor Law and Social Security

The following will be studied in this course: working relations, working conditions, rights and obligations of employers and employees, working relations of women and minors, as well as the different regimens of the Social Security Law, regarding the calculation of the contributions from employers that must be paid to Social Security, obligations from employers in case of sickness leaves or non-professional leaves, working accidents, etc.

PRE-REQUISITE:

AD422 SERVICE MANAGEMENT OPERATIONS

This course seeks to develop in students general knowledge on administration operations in services organizations through the analysis of a framework and frame of reference on the course's basic concepts, such as: its context in current economies, characteristics of services and services organizations, the elements in competitive strategies of these organizations, and positioning in the market, the importance of quality services, and techniques in management projects, so it is in conditions of practically developing the theoretical knowledge acquired through exercises, case studies, projects and field research to be made during the course. In order to achieve this, students should previously know the basic principles of service management, understand the importance of services in developed economies, and the sectors of greater growth; students will be able to identify opportunity areas to benefits and research on the processes involved with the design of intervention projects.

PRE-REQUISITE:

MK418 Service Marketing

This course seeks to generate in students, in a practical and theoretical way, the knowledge and skills related to the function of marketing in services organizations as a central part of competitive strategy. The following topics will be discussed: consumer's behavior, development of services, price assignment, distribution channels, integrated communications of marketing and positioning strategies, leadership and continuous improvement processes. In order to achieve this, students should know the fundamentals of services, understand the differences between goods and services, develop critical thinking, and have an inquisitive mind to acquire knowledge and skills.

PRE-REQUISITE:

FIFTH SEMESTER

CB402 Administrative Accounting

This course is the practical application of Cost Accounting and Decision Making, and includes the study of the following topics: The Cost-Volume-Revenue relation, Marginal Analysis for short-term business decisions and Cost Management, using contemporary register and cost analysis methods and philosophies.

PRE-REQUISIT: CB400 Financial Accounting I; CB401 Financial Accounting II; AD400 Administration and CO400 Costs

MK419 Client's Behavior

PRE-REQUISITE:

AD423 MAPPING PROCESSES

PRE-REQUISITE

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

SIXTH SEMESTER**FZ401 Financial Management**

This course sets the foundation for Financial Management, guiding students to understand the importance of finance in a company and their environment. Also known as Working Capital Management or Financial Management Fundamentals, this course provides the tools to analyze alternatives applicable in a short-term, classified within Current Assets and Liabilities.

Frameworks such as a cash budget, the different types of short-term investments in the Financial System, the changes in credit policies, the establishment of optimum amounts of inventory, and short-term financing options are some of the most relevant topics for this course. This is mainly a practical course that will require the constant use of a financial calculator, electronic worksheets, and, most of all, extensive reading on topics provided in the bibliography.

PRE-REQUISIT:

AD424 Service Operations Management II

PRE-REQUISITE

MK420 International Service Marketing

PRE-REQUISITE

AD425 Service Quality Management**HU401 Man, History and Society**

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

SEVENTH SEMESTER**AD402 Development of Entrepreneurs**

The objective of this course is to encourage an entrepreneurial spirit, fostering leadership, and teamwork, identify the competencies of an entrepreneur, and business entrepreneurs, providing knowledge through making a business plan to form a youthful company, where the knowledge acquired will be applied to determine the best strategies in the areas of Human Resources, Marketing, Finances, Production and Management, encouraging the experience of creating their own business, thus motivating organization, working under pressure, and a good environment to develop business skills.

PRE-REQUISITE:

AD404 Negotiations

This course, designed in the form of a Seminar, introduces students to the analysis and application of business components in all the situations of daily life, inside and outside the business organization: negotiations with potential clients, work mates, suppliers, political organizations, social organizations, international negotiations, and negotiations with diverse workforce, among others, in a personal way, as well as within groups.

PRE-REQUISITE:

AD427 Customer Service Systems

PRE-REQUISITE:

AD428 Supply Chain Management

PRE-REQUISITE:

HU402 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

EIGHTH SEMESTER

AD429 Assessment Systems in Services

PRE-REQUISITE:

AD430 Service Systems Management

PRE-REQUISITE:

AD431 Logistics Strategic Management

PRE-REQUISITE:

AD432 Contemporary Service Management

PRE-REQUISITE:

Elective

PRE-REQUISITE:

LD LAW

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
DE406	THEORY OF LAW	4	0	8	DE422	CONTRACTS	4	0	8
DE407	ROMAN LAW	4	0	8	DE423	COMMERCIAL LAW II	4	0	8
DE408	CONTEMPORARY LEGAL SYSTEMS	4	0	8	DE424	ORDERS OF PROTECTION I	4	0	8
CS401	THINKING SKILLS	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
CS400	ADVANCED COMMUNICATION IN SPANISH	4	0	8	DE425	ADMINISTRATIVE LAW AND SOCIAL SECURITY	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
DE409	FAMILY AND SUCCESSION LAW	4	0	8	DE426	PROCEDURAL AND COMMERCIAL LAW	4	0	8
DE410	CRIMINAL LAW I	4	0	8	DE427	ORDERS OF PROTECTION II	4	0	8
DE411	LABOR LAW I	4	0	8	DE405	FISCAL LAW	4	0	8
DE412	THEORY OF STATE GLOBALIZATION AND ECONOMICAL	4	0	8	HU401	MAN, HISTORY AND SOCIETY	4	0	8
EC400	DEVELOPMENT	4	0	8	DE428	INTERNATIONAL PUBLIC AND PRIVATE LAW	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
DE413	GOODS AND REAL RIGHTS	4	0	8		FISCAL AND ADMINISTRATIVE PROCEDURAL			
DE414	CRIMINAL LAW II	4	0	8	DE429	LAW	4	0	8
DE415	CONSTITUTIONAL LAW	4	0	8	DE430	CUSTOMS AND FOREIGN TRADE LAW	4	0	8
DE416	GENERAL THEORY OF PROCESS	4	0	8	DE431	PHILOSOPHY OF LAW	4	0	8
ID400	ADVANCED COMMUNICATION IN ENGLISH	4	0	8	HU400	MAN AND ENVIRONMENT	4	0	8
CS404	CULTURE II	2	0	4		ELECTIVE I	4	0	8
		22	0	44			20	0	40
4th SEMESTER					8th SEMESTER				
DE417	OBLIGATIONS	4	0	8	DE432	COPYRIGHT LAW	4	0	8
DE418	LABOR LAW II	4	0	8		ALTERNATIVE METHODS FOR CONFLICT			
DE419	COMMERCIAL LAW I	4	0	8	DE433	RESOLUTION	4	0	8
DE420	CRIMINAL PROCEDURAL LAW	4	0	8	DE434	TREATIES AND COMMERCIAL AGREEMENTS	4	0	8
DE421	CONSTITUTIONAL RIGHTS	4	0	8	HU402	MAN AND ETHICS	4	0	8
		20	0	40		ELECTIVE II	4	0	8
							20	0	40

FIRST SEMESTER

DE 406 Theory of Law

This course is delivered on the first semester of the Bachelor of Arts in Law. Its objective is to introduce students through knowledge and a broad and complex understanding of the world of Law, its social, normative and values dimension.

PRE-REQUISITE

DE 407 Roman Law

This course, delivered on the first semester of the Bachelor of Arts in Law, is indispensable in the academic, cultural, and social training of all students who aspire a Degree in Law, since the knowledge of antique laws as a historical, legal, and politician background are very important, and the ordinances and legal structures of the Positive Mexican Law have its origins in them. Likewise, by acknowledging this, it is easier for Law students to better understand the diverse institutions from a valid legal framework to our times, thus encouraging a search and an initiative of the legal progress for the constant and necessary evolution of Law.

PRE-REQUISITE

DE408 Contemporary Legal Systems

Introduces students to the knowledge and understanding of the world of law, from a global, international, and comparative perspective.

PRE-REQUISITE

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

SECOND SEMESTER

DE409 Family and Sucesion Law

This course identifies the general concepts of Family Law and its sources, to know and appreciate the transcendence of legal relations posed in Family Law: relationships, marriage, concubinage, divorce, affiliation, legitimation, custody, adoption, guardianship, patrimony, and succession.

PRE-REQUISITE

DE410 Criminal Law I

This course is eminently theoretical, since it is centered on the history of Criminal Law, theory of felony, theory of sentence, and safety measures. It goes before the study of special criminal law, or particular offenses. It is placed on the second semester because of its introductory character for the rest of the special areas of criminal law, and procedural criminal law. This course analyzes the main criminal law institutions, such as subjects, norms, effects of conducts, as well as the sources of criminal law. General topics related to felonies and Iter Criminis are also analyzed. This first course is complemented with other two courses. This course corresponds to one of the most significant courses in professional exercising, for it deals with the general aspects of one of the social phenomena of greater transcendence in human history: felony. Those special or specific aspects regarding felony, will be discussed in a different criminal law course.

PRE-REQUISITE

DE411 Labor Law I

The course is distinguished for providing the fundamentals of legal labor law in the program. It is placed on the second semester. It is a basic course, where students will know and learn the working relations, their importance, their sources, the subjects of labor law, and how the corresponding authorities operate. All these topics will allow students to understand the working environment. This a theoretical-practical course.

PRE-REQUISITE**DE412 Theory of State**

It is a theoretical course where transcendence topics related to the state are analyzed, such as: definition, composition, historical evolution, and elements. It is a course that will give students tools for a better participation in latter courses that involve the state as a subject; among them: Constitutional Law, Constitutional Rights, and General Theory of Process, as well as those courses from the Public Law area.

PRE-REQUISITE**EC400 Globalization and Economic Development**

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:**CS403 Culture I**

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:**THIRD SEMESTER****DE413 Goods and Real Rights**

This course identifies the necessary elements about concepts related to: patrimony, goods, real rights, possession, copyrights, and property public records, in order to acquire knowledge on patrimony institutions.

PRE-REQUISITE**DE414 Criminal Law II**

This course identifies the necessary elements for the knowledge of felonies in general, and it is integrated to the knowledge of Criminal Law I in its dogmatic area, thus establishing a group of theoretical knowledge that students must learn. Therefore, through instructors' presentations, and students' individual or group work, in addition to plenaries, discussions, cases analysis, research and search for jurisprudence, students are able to identify human behaviors that are considered typical, unlawful, and guilty within society; in addition, they will learn to precise the elements of each criminal type. That is why it is indispensable to course Criminal Law I.

PRE-REQUISITE**DE415 Constitutional Law**

It is a general, but selective outline of the historical-political development of the principal and multiple acceptations by which the Mexican Constitutional Rights have gone through: institutions generated from a legal environment, regarding the organization and functioning of the Mexican State; therefore, students in this course are required to have a solid management on legal concepts and terminology and a wide knowledge of the theory of the State.

PRE-REQUISITE

DE416 General Theory of Process

This course is centered on the study of the main institutions of procedural right, encouraging direct contact of students with these institutions, as much as possible, in order to generate learning and meaningful experiences. Therefore, through instructors' presentations, and students' individual or group work, in addition to plenaries, discussions, cases analysis, research and visits to institutions, students are able to obtain sufficient knowledge to achieve understanding of the procedural differences between law courses and its concepts.

PRE-REQUISITE

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER

DE417 Obligations

Obligations as a legal relation between creditor and debtor, is one of the most transcendent acts in the world of law. Students will analyze, and explain the diverse topics that integrate the general theory of obligations from its concept, elements, sources, species, effects, modalities, and cause of extinction. In order to study this course, students must know, understand and manage Theory of Law, especially legal acts. Additionally, students must have skills to analyze, synthesize, deduce and argument. At the end of the course, students will discover, know, and understand the topics that integrate the general theory of obligations, from its legal concept, sources, elements, modalities, and legal effects, in a way that, at the time of concluding the course, students will be trained to explain and apply the legal dispositions to concrete cases on the requisites to create, transmit, modify, and extinct obligations.

PRE-REQUISITE

DE418 Labor Law II

Students enrolled in this course, must have accredited the course Labor Law I, they will therefore have the skills to understand the course contents, and know the main concepts of the course; legal concepts will be analyzed in this course, such as : Professional Association, Unions, Collective agreement, Working Regulations, and Strikes as well as those concepts concerning Procedural Labor Law.

PRE-REQUISITE: **DE311 Labor Law I**

DE419 Commercial Law I

It is a theoretical course, an introduction to Commercial Law, where students will know the main legal concepts that integrate this part of Law. The second part of the course deals with topics related to commercial societies. In order to participate effectively in this course, students must have knowledge of the Theory of Law, Roman Law, as well as general concepts of Civil Law, specially the topics related to people. Students must show interest for reading and group work. This course is intended for students to be introduced to the world of commercial law, as well as the corporate area, parting from commercial legal people.

PRE-REQUISITE: DE406 Theory of Law; DE407 Roman Law

DE420 Criminal Procedural Law

This course studies the norms that regulate criminal processes in Mexico, their origin, as well as the stages of process preparation, and the process itself, including sentence, objection means, and a tendency of orality of processes.

PRE-REQUISITE: DE406 Theory of Law; DE416 General Theory of Process

DE421 Constitutional Rights

It is a theoretical course which deals with diverse constitutional rights protected by the Mexican constitution. Applicable generalities will be analyzed to the theory of constitutional rights, as well as their axiological aspects. This course is intended for students to acquire skills to identify the elements and violations of the constitutional rights, among others, so they can express such violations in the way of concepts of violation.

PRE-REQUISITE: DE406 Theory of Law; DE415 Constitutional Rights

FIFTH SEMESTER**DE422 Contracts**

This course analyzes the concept, elements, and legal consequences of contracts. This course is eminently practical, where students are intended to manifest their knowledge of the theory in the elaboration of specific contracts.

PRE-REQUISITE : DE413 Goods and Real Rights ; DE409 Family and Succession Law; DE417 Obligations

DE423 Commercial Law II

It is a practical course, where students will know the main legal concepts related to securities, and credit operations. The second part of the course is about the topics related to commercial contracts. The third part of the course deals with commercial items, including a few procedural dispositions. Students must show interest for reading and group work.

PRE-REQUISITE: DE419 Commercial Law I; DE 406 Theory of Law; DE417 Obligations

DE424 Orders of Protection I

It is a theoretical course that sustains the process of protection, as the legal procedure to question all acts of authority that allegedly violate these subjective public rights consigned in the Mexican Political Constitution, in a way that those who know these principles, can acquire a gradual comprehension that will serve to develop a theoretical-practical technique on the management of the process of protection. Students must show interest for reading and group work.

PRE-REQUISITE: DE415 Constitutional Right; DE416 General Theory of Process; DE421 Constitutional Rights

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

DE425 Administrative Law and Social Security

The contents in this course correspond to the study of Public Administration in our country, where students will find fundamentals that determine the legal existence of each subordination that form the administrative area and its activities. Additionally, the principal institutions of social security in our country will be analyzed. This course is mostly theoretical, and it introduces the specific areas of the administrative law.

PRE-REQUISITE: DE406 Theory of Law; DE415 Constitutional Rights

SIXTH SEMESTER**DE426 Procedural and Commercial Law**

This course analyzes the fundamental procedural concepts of civil and commercial procedures. This course is eminently practical, students will apply the theoretical knowledge in diverse learning activities, such as the integration of files, elaboration, interpretation and analysis of legal documents, and their participation in diverse procedural acts, in a real or simulated way. In order to study this course, students must have studied the course General Theory of Process.

PRE-REQUISITE: DE416 General Theory of Process

DE427 Orders of protection II

It is a theoretical-practical course. By students applying the knowledge acquired during the first course, and the theoretical presentation of procedural topics, they will proceed to, under the scrutinous supervision of the instructor, the practical application of protection in concrete cases, respecting the legal procedures to question all acts of authority that allegedly violate individual rights, from the beginning with the presentation of the lawsuit, until the conclusion with the dictation of sentence, and in its case, execution, in a way that students solve, apply, and develop a theoretical-practical technique on the management of the protection process. Students must show interest for reading and group work.

PRE-REQUISITE: DE416 General Theory of Process; DE424 Orders of Protection I

DE405 Fiscal Law

It is a theoretical course where general topics of fiscal law will be analyzed, parting from the revision of the essential elements in this course, reviewed by valid doctrines and legislations. In order to study this course, students must have essential knowledge on the Theory of Law; likewise, they must have solid bases of Administrative Law and Social Security, Constitutional Law, and Constitutional Rights.

PRE-REQUISITE: DE406 Theory of Law; DE415 Constitutional Law; DE421 Constitutional Rights; DE425 Administrative Law and Social Security

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

DE428 International Public and Private Law

In the contents of this course, students must have previous knowledge on civil, criminal, constitutional, administrative and procedural law and rights. International Law is indispensable for students' professional training, because it is part of the internationalization topics of Law. Students must know how to make selective information disseminations, be responsible and committed to activities. In order to participate in this course effectively, students must have solid knowledge on the theory of law, procedural law, and administrative law, in general, as well as skills to search and discriminate information in diverse sources, printed and electronic.

PRE-REQUISITE: DE415 Constitutional Law; DE420 Procedural Law; DE410 Criminal Law I; DE414 Criminal Law II; DE406 Theory of Law; DE425 Administrative Law and Social Security

SEVENTH SEMESTER

DE429 Fiscal and Administrative Procedural Law

PRE-REQUISITE

DE430 Customs and Foreign Trade Law

PRE-REQUISITE

DE 431 Philosophy of Law

PRE-REQUISITE

OP400 Elective I

PRE-REQUISITE

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

EIGHTH SEMESTER

DE432 Copyright Law

PRE-REQUISITE

DE433 Alternative Methods for Conflict Resolution

PRE-REQUISITE

DE 434 Treaties and Commercial Agreements

PRE-REQUISITE

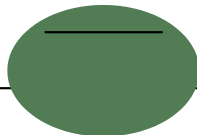
OP401 Elective

PRE-REQUISITE

HU432 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:



LDG GRAPHIC DESIGN

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
DG401	INTRODUCTION TO DESIGN	4	0	8	DG429	VISUAL COMMUNICATION COMPANY MANAGEMENT	4	0	8
DG402	THEORY OF COLOR	4	0	8	DG417	PHOTOGRAPHY AND DIGITAL STUDIO	4	0	8
DG403	DRAWING I	4	0	8	DG418	ILLUSTRATION	4	0	8
CS401	THINKING SKILLS	4	0	8	DG419	CORPORATE IDENTITY GLOBALIZATION AND ECONOMIC DEVELOPMENT	4	0	8
DG404	PUBLICITY WRITING	4	0	8	EC400		4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
DG405	VISUAL COMMUNICATION THEORY	4	0	8	DG420	BRAND IMAGING	4	0	8
DG406	PHOTOGRAPHY	4	0	8	DG421	PRINTING SYSTEMS	4	0	8
DG407	TYPOGRAPHY	4	0	8	DG422	EDITORIAL DESIGN	4	0	8
DG408	DRAWING II	4	0	8	DG423	CONTAINER, LABELING AND DISPLAY	4	0	8
CS400	ADVANCE COMMUNICATION IN SPANISH	4	0	8	HU400	MAN AND ENVIRONMENT	4	0	8
DG409	HISTORY OF GRAPHIC ARTS I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
MK400	MARKETING MANAGEMENT	4	0	8	PU400	ADVERTISING	4	0	8
DG410	TYPOGRAPHY II	4	0	8	DG424	DIGITAL PRE PRESS	4	0	8
DG411	DRAWING OF THE HUMAN FORM	4	0	8	DG425	INTERNET DESIGN	4	0	8
DG412	GRAPHIC DESIGN	4	0	8	DG426	AUDIOVISUAL MEDIA	4	0	8
ID400	ADVANCED COMMUNICATION IN ENGLISH	4	0	8	HU401	MAN AND SOCIETY	4	0	8
DG413	HISTORY OF GRAPHIC ARTS II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
DE417	CONSUMER BEHAVIOR	4	0	8	DG430	VISUAL PROJECT MANAGEMENT	4	0	8
MK405	RESEARCH METHODOLOGY	4	0	8	DG427	PROFESSIONAL PORTFOLIOS	4	0	8
CS402	INTRODUCTION TO DESIGN BY COMPUTER	4	0	8	DG428	MULTIMEDIA	4	0	8
DG415	TECHNICAL DRAWING	4	0	8	HU402	MAN AND ETHICS	4	0	8
DG416	SIGNAGE	4	0	8		ELECTIVE I	4	0	8
		20	0	40			20	0	40

LDG GRAPHIC DESIGN

FIRST SEMESTER

DG401 Introduction to Design

This course is part of the first semester program and analyzes design as a professional activity. The basis of design in two and three dimensions are studied and practiced, thus making this course a theoretical-practical one and also keeping a direct relationship with Visual Communication Theory and Theory of Color.

This course's importance lies in the fact that it prepares Graphic Design students to understand design in its multiple aspects and initiate them in the exercise of two and three dimension compositions.

This course is developed through different classroom activities, readings, analysis, practice, etc., furthermore, students with facilitator tutoring will carry-out extra class activities such as research and design exercises.

PRE-REQUISIT:

DG402 Theory of Color

This a theoretical-practical course planned so Graphic Design students learn and understand the importance of color in this area and at the same time apply the acquired knowledge in projects related to their major.

PRE-REQUISITO:

DG403 Drawing I

Theoretical-practical course planned so Graphic Design students learn the basic principles of drawing thus applying the knowledge acquired in projects related to their major.

PRE-REQUISIT:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their education in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

DG404 Publicity Writing

Theoretical-practical course that intends to initiate Graphic Design students in the complexity of publicity writing making them reflect on the function of texts in different means (mainly printed), understanding the connection among visual languages and the creation of concepts and precepts.

PRE-REQUISIT:

SECOND SEMESTER

DG405 Visual Communication Theory

This course is designed for students to acquire basic knowledge on visual communication concepts and systems that allow them to produce graphic designs and visual products whose communicative capability can be adapted to the requirements of the necessities in today's design by providing students with criticism and analysis capacity in the production of visual designs.

PRE-REQUISITO:

DG406 Photography

It is important for Graphic Designers to study photography both as a means of creative and informative expression and as an integrative discipline in graphic design specialty areas. This course is an introduction to the creation and interpretation of photography covering:

Technical aspects. Such as the training in the use of SLR and 120 35mm professional cameras. Knowledge of specific materials for analog photography and lab practices (dark room).

Conceptual aspects. Such as the approach of significance and functionality of images through their historical evolution, of the reflection and theoretical analysis of photography's specific documental, conceptual or constructed specific languages

PRE-REQUISIT:

DG407 Typography I

This course is an introduction to typography. Students will be presented to typography's basic technical, functional and aesthetical knowledge. They will learn the interdependence of letter design with the application techniques either handwritten or printed. A special emphasis will be made on the importance of typography in all the areas and projects of graphic design. Student's criticism skills to analyze and conceptualize form according to content and context will be developed. As previous knowledge students must understand what graphic design is and utilize its materials.

PRE-REQUISIT:

DG408 Drawing II

Students will widen and continue developing their observation and abstraction skills as well as their manual and intellectual abilities to represent ideas through drawing in an adequate form in a diversity of graphic applications

PRE-REQUISITO:

CS400 Advanced Communication in Spanish

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

DG409 History of Graphic Arts

It is important to Graphic Designers to study the history of visual communication from pre-history to pre-industrial revolution in Mexico as in the world.

This course intends to teach students to identify and document the innovations in the semantic and syntactic aspects of visual communications by researching, analyzing and assessing graphic design of each era trying to differentiate the works in their cultural, ideological and formal context. This learning will constitute in students a useful conceptual vision to confront the future challenges in their professional career.

This is a theoretical course that provides a classification for the understanding of design as an area of symbolic and aesthetic production.

PRE-REQUISIT:

THIRD SEMESTER**MK400 Marketing Administration**

The Marketing Administration course is a theoretical-practical course where students learn the fascinating world of Marketing. They will learn the definition of Marketing, its reach and its application in companies working in the market. They will learn and develop a Marketing mix to solve problems in the different branches of business.

PRE-REQUISIT:

DG410 Typography II

This is the second of two courses thus it is a requisite to have accredited Typography I.

Students will understand the basic technical, functional and aesthetical aspects of typography specifically regarding legibility seen as a value.

They will develop their ability of visual perception and conceptual analysis.

They will work with different formats and substrates that will allow them to enrich their resources as designers in the application of typography to practical projects of design.

PRE-REQUISIT: DG407 Typography I

DG411 Drawing of the Human Form

Practical course designed for students to easily learn both schematic and dimensional construction of the human figure and the diverse forms to achieve its expression of movement and perspective

PRE-REQUISIT:

DG412 Graphic Design

In this course students will know, develop and apply a design methodology that will be their tool to resolve visual communication projects.

They will develop projects related to billboard design, graphic identity and publishing design.

They will learn the concepts required regarding the technical aspects of graphic design, these concepts besides being studied, will be analyzed, reflected upon, practiced and improved developing the skills they will need throughout their studies and professional lives to elaborate and collaborate in creative, logical, expressive and aesthetic design projects in a proactive and responsible way demonstrating empathy with each other.

PRE-REQUISIT:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

DG413 History of Graphic Arts II

In this course students will learn to identify and analyze the innovations produced in the art movements comprehended from the industrial revolution to the present, emphasizing on the formal, semiotic and cultural aspects. The influence that Industrial Revolution had in artistic activities and commercial dissemination of art. The stages of graphic design are researched, analyzed and assessed differentiating the cultural and ideological context. The course's objective is that students could be able to criticize art from a professional conceptual and useful vision. This course is defined a theoretical course that provides a classification for the understanding of design as an area of aesthetical and symbolic productions.

PRE-REQUISIT:

FOURTH SEMESTER**MK405 Consumer Behavior**

People Behavior is a fundamental variable for marketing strategies in the launching of new products and advertising campaigns. Why do they prefer red color? Why did he choose this brand and not that one? How come they pay 30% more for that product? These are the questions that this discipline seeks to answer in order to better understand Consumers. This is a fascinating course supported by Anthropology, psychology and sociology to observe consumers... consumers who are the key to design a business that intends to be profitable.

PRE-REQUISIT:

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

DG414 Introduction to Design by Computer

This course's objective is that students fully recognize the planning process of a graphic design project as well as to set the basis for the understanding of computers and their use as a tool in the production of graphic projects.

To take this course it is mandatory that students have prior knowledge of and apply the principles of graphic design.

PRE-REQUISIT:

DG415 Technical Drawing

Practical course designed in order for students to acquire the necessary knowledge to accurately, clearly and precisely make a graphic representation of an object or idea by using a pre-established and fixed idea.

It is also planned in such way that students will learn to visualize and obtain the development of simple objects and to represent them in a two-dimensional space through projection systems by using CAD

PRE-REQUISIT:

DG416 Signage

This course is designed for students to learn through the follow up of a practical methodology to develop signaling projects as well as to know the main concepts and areas of study of Ergonomics.

PRE-REQUISIT:

FIFTH SEMESTER**DG429 Visual Communication Company Management**

Students will know the concepts and tools to establish, maintain and develop companies dedicated to one or several visual communication activities either in printed, digital or multimedia formats.

The course's general methodology is theoretical-practical. With the instructor's aid and through field research and information sources the different topics of the units are studied.

Besides in order to promote significant learning, visits, interviews, application are carried out and projects related to visual communication companies are developed.

PRE-REQUISIT: It is desirable that students have passed the first four semesters of their major before taking this course.

DG417 Photography and Digital Studio

This is a theoretical-practical course based on composition and photographic skills. It introduces students to computer image processing technologies.

This course will be taught with an intellectual background on digital image nature in terms of technical values utilizing examples prepared for this purpose.

PRE-REQUISIT:

DG418 Illustration

In this course students will develop and experience the necessary methods and techniques to create illustrated images.

This course is defined as a subject of digital and manual techniques to achieve appropriate effects for different applications in visual communication and advertising.

PRE-REQUISIT:

DG419 Corporate Identity

This course covers the fundamental concepts that build Corporate Identity. Students will learn to develop the research, creation and development process, as well as the evaluation of a Corporate Identity program. The course will provide the necessary theoretical-practical knowledge to successfully carry out the communication of the essential values of a company. The conception of Corporate Identity will be emphasized as a global process requiring a solid image construction. In this way, students will be able to have a leadership vision that will facilitate their development in graphic design's professional field towards corporate positioning solutions.

PRE-REQUISITO: CS402 Research Methodology, DG414 Introduction to Design by Computer.

EC400 Globalization and Economic Development

This is one of the first courses that conform the life formation area, and as such, it pretends that students achieve a general vision of cultural, technological, political, social and economic aspects that allow them to have a foundation to interpret the global world and its transformation since the 1980's.

PRE-REQUISIT:

SIXTH SEMESTER**DG420 Brand Imaging**

The course presents the fundamental aspects in the understanding of branding. Students will acquire theoretical and practical knowledge on the strategies used in the building of a brand image. Through this course the main concepts that have positioned branding as an indispensable tool in the development of a company will be revised. Emphasis will be made in graphic communication aspects that determine the successful creation of a brand. In this way, students will be able to develop a branding project covering different stages, from advertising strategy to the creative application of graphic materials. This will encourage their leadership as a professional capable of providing branding strategic solutions.

PRE-REQUISITO: DG419 Corporate Identity

DG421 Printing Systems

Students will know the process that is followed once a design approval is obtained, what happens after the final prototype: pre-press and printing. They will know the different printing systems in the market. Alongside the theoretical part, students will carry out hands-on assignments in the Screen-printing workshop.

In this course students will know the basic techniques and materials utilized in screen-printing, as well as their commercial and artistic application. Furthermore, students will learn the advantages and disadvantages of this printing system and they will be able to apply or suggest the updating of this technique.

PRE-REQUISIT:

DG422 EDITORIAL DESIGN

Students will acquire a theoretical-methodological basis in the field of Editorial Design using the acquired knowledge in previous courses such as typography and graphic design which helps them to detect the creational needs of editorial materials.

PRE-REQUISIT:**DG423 Container, Labeling and Display**

Students will know the importance of container design, the general characteristics of existing materials in the market, and their different applications, they will have a general idea of the applied processes with diverse materials to create containers. They will develop projects that allow them to generate creative solutions, and to know the considerations to bear in mind for the creation of the part of graphic design of containers, labels and displays.

PRE-REQUISIT:**HU400 Man and Environment**

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:**SEVENTH SEMESTER****PU400 Advertising**

To develop in students a solid understanding of advertising functions that enable them to carry out an advertising campaign starting from a marketing situation of a product or service provided by an organization or identified sponsor.

PRE-REQUISIT:**DG424 Digital Pre-Press**

This course covers the fundamental aspects for the understanding of digital pre-press. Students will acquire the theoretical-practical knowledge that allows them to identify possible problems and their solutions. During the course concepts such as color and the importance of its fidelity will be described. Students will learn how to create projects correctly displaying the original idea in the required printing system, helping them to create a workflow functional for the majority of the projects.

PRE-REQUISIT:**DG425 Internet Design**

This course presents Internet and the way of how it graphically communicates concepts through website design and construction. During this course students will be introduced to some technologies in a schematic way, the technique for website construction optimizing them for their display in different types of computers and the application of graphic design in this new means.

As previous knowledge students must dominate the generation edition of digital images and the use of computers as graphic designing tools.

PRE-REQUISIT:**DG426 Audiovisual Media**

This course covers the fundamental aspects for the understanding and practice of audiovisual products. Throughout this course students will acquire the necessary knowledge to develop communication strategies with complex elements including moving images and sound.

This course will provide concepts that will allow students to apply their previous design knowledge to sequential images based media such as television, movies and interactive kiosks. Emphasis will be made graphic communication aspects that determine the successful creation of a product of audio-graphic media. The objective is that students develop a project with images and sound in all of the production stages, from script design to post-production. By doing this we confirm the commitment that CETYS has in the formation of visual professionals that impulse regional development through the design of high quality audiovisual products.

As previous knowledge students must master the theoretical-practical concepts of Photography.

PRE-REQUISIT:**HU401 Man and Society**

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes mankind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

EIGHTH SEMESTER

DG430 Visual Project Management

To encourage meaningful learning students carry out: readings, mental maps, analysis, reports, visits, interviews, application exercises and visual communication projects.

PRE-REQUISITO:

DG427 Professional Portfolios

Theoretical-practical course in which through the analysis of the concept of professional portfolio and the revision of the students personal work throughout their major, allow them to document evidence that as a whole can give proof of the students' work quality and type and achievements and strengths as designer.

This will allow students to reflect upon and improve since the portfolio is used in a university context as a self-assessment instrument.

PRE-REQUISIT:

DG428 Multimedia

One of the most innovative disciplines in graphic design is multimedia, due to the confluence of different supports into a same visual communication project. Thus, this course unfolds a series of contents that will help develop complex designs that involve the latest range of digital technology.

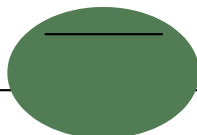
Through this course students will acquire graphic design proposals skills towards different applications, from audiovisual presentations, websites enriched with animation and sound, to kiosks and collective programs.

This course fosters the experimentation of creative and design processes that lead to the creation of graphic communication products by using digital tools. The course program is designed to satisfy the technological needs of new trends on design, image and sound.

PRE-REQUISIT:

HU402 Man and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.



MAD MASTER'S DEGREE IN ADMINISTRATION

COMMON CORE (6 COURSES):

- *HUMAN RESOURCE MANAGEMENT
- *MARKETING MANAGEMENT
- *STRATEGIC MANAGEMENT
- *DECISION MAKING STATISTICS
- *OPERATIONS MANAGEMENT
- *FINANCIAL MACROECONOMY
- *FINANCIAL ADMINISTRATION
- *ADMINISTRATIVE ACCOUNTING

CONCENTRATION AREA (4 COURSES):

FINANCES

- WORKING CAPITAL
- MARKETING MONEY AND CAPITAL
- FINANCIAL THEORY AND ANALYSIS
- BUSINESS FINANCIAL FRAMEWORK
- FINANCIAL ENGINEERING
- CORPORATE FINANCES
- INTERNATIONAL FINANCES
- INTERNATIONAL ACCOUNTING
- MICROECONOMY
- FORMULATION AND ASSESSMENT OF INVESTMENT PROJECTS
- RISK MANAGEMENT

ECONOMICAL DEVELOPMENT

- ECONOMICAL DEVELOPMENT (BASIC COURSE)
- REGIONAL ECONOMICAL DEVELOPMENT
- ECONOMIC AND INDUSTRIAL PROMOTION
- ECONOMICAL DEVELOPMENT PLANNING
- ECONOMICAL GEOGRAPHY
- PUBLIC POLICIES
- TECHNOLOGY MANAGEMENT
- ADVANCED INDUSTRIAL PROMOTION
- PUBLIC AND PRIVATE INFRASTRUCTURE DEVELOPMENT LAB
- BUSINESS RELOCATION, RETENTION AND GROWTH
- THE FAMILY BUSINESS

HIGH ADMINISTRATION

- HIGH ADMINISTRATION
- PROJECT MANAGEMENT
- STRATEGIC ADVISING
- CORPORATE LAW
- DEVELOPMENT OF BUSINESS PLANS
- ENTREPRENEURIAL DEVELOPMENT
- BUSINESS ETHICS AND VALUES
- THE FAMILY BUSINESS
- LEADERSHIP AND SUSTAINABLE DEVELOPMENT

SUPPLY CHAIN

- OPERATIONS MANAGEMENT
- LEAN MANUFACTURING
- SUPPLY CHAIN MANAGEMENT
- LOGISTICS AND DISTRIBUTION

MARKETING

- MARKET RESEARCH
- INTERNATIONAL MARKETING
- ADVERTISING AND SALES PROMOTION
- SALES ADMINISTRATION
- CONSUMER'S BEHAVIOR
- MARKETING SEMINAR
- STRATEGIES FOR NEW PRODUCTS AND SERVICES
- E-BUSINESS
- SERVICES MARKETING
- SOCIAL MARKETING
- POLITICS MARKETING

CONCENTRATION AREA (4 COURSES):

INTERNATIONAL BUSINESS

- INTERNATIONAL BUSINESS
- TRANSCULTURAL MANAGEMENT
- INTERNATIONAL ACCOUNTING
- BUSINESS FISCAL LAW
- INTERNATIONAL FINANCES
- INTERNATIONAL STRATEGIC MANAGEMENT
- FOREIGN TRADE AND CUSTOMS LAW
- INTERNATIONAL LOGISTICS
- INTERNATIONAL ECONOMICAL DEVELOPMENT
- ECONOMICAL GEOGRAPHY
- MEXICO AND BUSINESS TREATIES
- SMALL AND MEDIUN BUSINESSES AND GLOBAL MARKETS

HUMAN RESOURCES

- PERSONNEL INTEGRATION
- TRAINING AND DEVELOPMENT
- PRODUCTIVITY AND LABOR QUALITY
- LABOR RELATIONS
- ORGANIZATIONAL DEVELOPMENT
- WAGES AND COMPENSATIONS
- BUSINESS COMMUNICATION
- LABOR COMPETENCIES
- ERGONOMICS AND OCCUPATIONAL HEALTH
- ORGANIZATIONS PSYCHOLOGY
- TRANSCULTURAL MANAGEMENT
- MEXICANS' PSYCHOLOGY

PUBLIC MANAGEMENT

- POLITICAL SCIENCES
- MEXICAN POLITICAL SYSTEM
- PUBLIC POLITICS
- PUBLIC ADMINISTRATION
- ETHICS IN PUBLIC CHARGES
- STATE AND MUNICIPAL ADMINISTRATION
- PUBLIC FINANCES
- REGIONAL ECONOMICAL DEVELOPMENT
- GOVERNMENT MODERNIZATION
- COMPARED PUBLIC POLITICS
- CONSTITUTIONAL RIGHTS
- ADMINISTRATIVE LAW
- CULTURE OF LAW
- PUBLIC TRANSBORDER ADMINISTRATION
- ADMINISTRATION OF NON-GOVERNMENT AGENCIES
- GOVERNMENT ADMINISTRATION

QUALITY

- THE FAMILY BUSINESS
- TOTAL QUALITY MANAGEMENT
- QUALITY NORMS SYSTEMS
- QUALITY ENGINEERING
- PRODUCTION SYSTEMS
- JAPANESE TECHNIQUES
- MANUFACTURING TECHNIQUES

**ELECTIVE AREA (3 COURSES IN ANY TYPE OF PROGRAM)
MAJOR FIELD OF STUDIES: MAKE AN APPLICATION PROJECT**

Common Core**RI505 Human Resources Administration**

The course offers general knowledge on the administration of human resources, comprising different areas and elements in planning, design, and post analysis, recruitment and selection, training and development, assessment and working relations.

MK500 Marketing Administration

Through this course, students will be introduced to the process of marketing; they will analyze the market's behavior and the types of shoppers, they will determine market opportunities and the application of marketing to satisfy those needs, in order to achieve a correct administration in the marketing process.

AD500 Strategic Management

Students will be exposed to different areas and approaches that cover strategic management. The strategic cycle will be presented and the need to count on specific strategies for the different areas, at a corporate, business, and functional level.

MA500 Decision Making Statistics

The course discusses the study of statistic procedures, through computing examples, as well as the use of specialized programs in the area. Its emphasis is placed on the understanding of the proper selection of logical and adequate terminology.

II500 Operations Management

The course offers fundamental concepts and the effects in the product's design and selection of process, management of the supply chain, planning of the demand, and manufacturing systems.

EC500 Financial Macroeconomics

Creating awareness on how macroeconomical factors affect our economy and businesses, and the consequences in the economical and social development of our country, through the analysis and comprehension of the different policies and economical theories. As a practical result, students are intended to read the newspaper, or watch the financial or economy news, and understand what is trying to be communicated in order to make the best decisions.

FZ501 Financial Management

This course comprises the description and the use of tools for the analysis and interpretation of financial statements, financial management of the working capital, assessment of projects, and sources of resources and their cost, as well as the discussion and analysis of business and financial, national and international surroundings.

CB500 Administrative Accounting

The course discusses the use of financial information in the analysis of the company's situation. Administrative accounting in the planning and control processes, terminology, behavior, systems and cost inter-relations, and capital budget. Cost systems will be discussed under a new manufacturing environment.

Concentration Area**Finances****CB501 Working Capital**

The course discusses the knowledge of financial management in the company in a short term, encouraging the teaching of new tools and the elements of whole financial planning, parting from investment activities and their financing sources, applying practical cases, exercises and readings, to understand financial decisions regarding the acquisition and financing of assets.

FZ502 Marketing Money and Capital

The course deals with the structure and functions of a non-banking financial market, it offers detailed knowledge on the different techniques and theoretical models that are used in the stockmarket practice for investment and financing decision-making, the analysis of fixed income and variable funds, as well as the portfolio management principles and strategies of financial investment.

FZ503 Financial Theory and Analysis

The course offers a broad knowledge on financial statements, parting from the basic theory of accounting and the tools and instruments of financial analysis.

IM512 Business Financial Framework

The course discusses different areas of the Mexican financial and tax law.

FZ505 Financial Engineering

The course provides a detailed knowledge on the Financial Engineering areas, analyzing the different components of the market's investment portfolio, as well as related topics, such as mergings, acquisitions, bond issues, and swaps.

FZ506 Corporate Finances

A course that provides detailed knowledge on analytical techniques and models used in the financial decision-making process of a modern corporation. Concepts and theories will serve as a base for Corporate Finances; they comprise diverse topics, such as the following: strategic planning, capital cost and structure, financing sources, division of companies, acquisitions, and financial insolvency.

FZ507 International Finances

The course talks about the most relevant topics on international finance markets: international financing, markets of future merchandise, and investment within the international currency system.

CD502 International Accounting

The course discusses the financial accounting aspects, those of international operations for transactions in foreign currency, taxes, assessment of subsidiary companies, comparison of international accounting norms between Canada, the U.S, Mexico, and those of the International Accounting Regulations Committee.

EC501 Macroeconomics

The course provides fundamentals for the analysis of the economical aspects regarding decision-making. Consumer's and producer's theory is studied, as well as an individual's decisions before changes in prices; equilibrium, market structures, factors market, and market failure.

FZ504 Formulation and Assessment of Investment Projects

The course offers a global knowledge of the methods used in the economical preparation and evaluation of investment projects. The components and processes of market, technical, and economical studies are analyzed.

FZ508 Risk Management

The course offers a general overview of financial risk management, describing the methodologies and tools that have been developed, their applications, and presenting the latest parameters and measures that have been designed to determine the exhibition.

High Administration**AD503 High Administration**

The study of Management as a discipline that develops skills and knowledge necessary to formulate and pose a working culture oriented to excellence in the management of businesses. Students must manage their proper management model oriented to finding levels of sublimeness and survival in the execution of any human activity. Students must understand the variables of the surroundings that affect direct actions through innovation processes, as well as managing a culture of success, idiosyncrasy, and the values of human capital involved in a leadership process.

AD509 Project Management

A theoretical-practical course on the tools and methodologies of Process Management, that offer a detailed vision on the financial assessment of projects, as well as the processes of planning and control, and project management.

AD508 Strategic Advising

The course offers participants a general overview on advising, its challenges and opportunities, identifying the necessary competencies and strengthening the essential ones, providing the necessary methodological knowledge for advising management projects.

DE501 Corporate Law

The course develops the fundamental elements of Corporate Law, comprising the study of a company's legal framework, civil, and commercial contracts, titles and credit operations, property and intellectual rights, foreign investment, and immigration law; working and ecological law, and legal means for the solution of conflicts.

AD504 Business Plan Development

The course develops key concepts for the design of Business Plans, analyzing each element required in the business field, as well as the context of international competition and global markets.

AD507 Entrepreneurial Development

The course develops concepts for assessing a personal entrepreneurial strategy and a learning methodology, additionally seeking to explore the entrepreneurial mindset, and the creation process, development, management, assessment, and reinvention of businesses.

CS504 Ethics and Business Values

This course offers a general overview on different philosophical currents on ethical behavior, to continue to ethics in the business and in the company, offering practical elements on the development of an entrepreneurial culture fundamented on values in Mexico. On the other hand, some cases of study are discussed according to the new challenges of administration.

AD506 The Family Business

The course addresses the knowledge on the characteristics of family businesses, its main sources of conflict and the tools to prevent them and manage them. Likewise, it presents the necessary elements to achieve the company's professionalization, as a means to reach success, and broadens the information on the technical and legal aspects to guarantee the continuity of the company through an effective succession.

AD505 Leadership and Sustainable Development

Learning experiences are designed through readings, information analysis, and exchange of points of view through debates to sensitize regarding the risks implied in a planet imbalance as a social receptacle, as well as the importance of life diversity and the imperativeness of living according to one's limits. This course invites students to carry on a process analysis and a synthesis of the topics quoted in its bibliography, with individual and group participation of students, discussion and collaboration groups under the instructor's supervision who acts as a motivating/facilitating agent. The course uses a different methodology in each session to thus, train students to manage concepts and ideas, instead of just concrete information. Some methodologies used in this class are: Kolb's four ways to learn, Abstract Knowledge management, and individual research work.

Supply Chain**II500 Operations Management**

The course offers fundamental concepts and the effects on the design of the product and selection of process, management of the supply chain, planning of demand, and manufacturing systems.

MF509 Lean Manufacturing

In this course, students will develop a whole vision of Lean Manufacturing, and the steps and organizational requisites for its implementation. Through the use of study cases, they will develop a deep understanding of the implications of Lean Manufacturing such as mapping of the value chain, methods for quick changes, total production maintenance, techniques to solve problems, pull systems and visual factory. The course has a strong orientation towards the understanding and the application of implementation processes for lean manufacturing in industrial environments.

II502 Supply Chain Management

In this course, students will develop a whole vision of Supply Chain Management (SCM) under a strategic focus, in the framework of an international operations environment. Students will be able to incorporate the SCM focus to optimize the business' global functions. They will know the different functions and activities of SCM. They will understand the relation between the planning processes and management of inventories with SCM. They will be exposed to practical tools and contemporary cases that will allow them the application of their knowledge to select suppliers, logistics, outsourcing, global purchases, contracts, negotiations, process and cost analysis. They will determine which information technologies for the supply process have a greater potential according to the business environment. Finally, students will determine how to apply the SCM focus to their business as a competitive factor.

II506 Logistics and Distribution

This course provides students the theoretical fundamentals of logistics and the practical application models that will allow them, with the assistance of a computer, to intervene in it, from the design and implementation phase to the improvement of logistic systems and distribution with a focus comprising the organization and the supply chain. The course contemplates a practical and application approach that parts from the knowledge of logistic models, including its technical fundamentals, to give students a complete comprehension that allows them to assess and decide on decisions regarding: supply, storage, distribution, and transportation. The course provides students with a complete overview of the modern trends in this discipline, and how information technologies are used to optimize systems. Students are intended to reach situations where they have to design, decide, and determine strategies to improve the system.

Economical Development**xxxxx Economical Development (Basic course)**

Through this course, the elements and main tools of promotion and economical development are analyzed, it represents, at the same time, the first module of the education program of economical development accredited by the International Economic Development Council (IEDC) and the University of Oklahoma / Economic Development Institute (UO/EDI).

EC502 Regional Economical Development

The course comprises different aspects regarding regional economical development, parting from business initiatives and community enterprise, to the development of international businesses with an impact on the local economy, as well as knowing diverse elements that influence its performance and the challenges that the economical units face under this focus.

EC507 Industrial and Economical Promotion

The course addresses marketing and economical and industrial promotion, oriented to the retention and expansion of businesses in the regional economics field, that is used to improve conditions of competitiveness in the global market.

EC 508 Economical Development Planning

The course discusses the technical and analysis aspects that achieve economical development planning with a regional focus, as well as mechanisms tending to generate a vision of consensus to strengthen the local economy.

EC503 Economical Geography

The course addresses the analysis of basic postulates of economical geography and spatial economy, making a brief introduction to regional studies for different zones in the planet, and introduces linking elements with the study of geopolitics, and social and human development, proposing a discussion of some current affairs.

AP506 Public Politics

The course develops concepts, ideas and methodological tools on the focus and analysis of public politics, that better understand their design, implementation, impact, and assessment.

SI502 Technology Management

This course presents the most outstanding topics regarding information technology focused on management, providing practical and technical elements to obtain information systems that are used to support the participants' work.

EC509 Advanced Industrial Promotion

Through this course, elements to achieve an industrial promotion solid process are developed, and through the analysis of study cases, the techniques and tools will be revised in a practical way, for an effective promotion.

EC510 Public and Private Infrastructure Development Laboratory

Through this course, the elements to develop capacities and potentialities of public and private infrastructure will be developed, through a regional economical development process.

EC511 Business Relocation, Retention and Growth

This course develops diverse techniques and tools to achieve a successful definition of alternatives and opportunities of location and relocation of economical units, as well as retention programs and business expansion.

AD506 The Family Business

The course addresses the knowledge on the characteristics of family businesses, its main sources of conflict and the tools to prevent them and manage them. Likewise, it presents the necessary elements to achieve the company's professionalization, as a means to reach success, and broadens the information on the technical and legal aspects to guarantee the continuity of the company through an effective succession.

Marketing

MK501 Market Research

The course is about a broad knowledge on the market research process, contributing with elements, techniques, and tools for the preparation and development of research, report presentation, and the analysis and interpretation of results.

MK502 International Marketing

The course offers a general overview on global commercial policies and opportunities for a correct planning of international planning, which will be accomplished through a deep cultural, legal, world geography, and multimarket analysis. The procedure for the application of international marketing logistics will be studied, in addition to the understanding of international markets management.

MK503 Advertising and Sales Promotion

The course comprises the administration and the bases of marketing communications, using techniques and creative strategies in advertising means and the effects of advertising, in addition to knowing and applying the different sales promotion tools, the application of an advertising campaign, and communication, advertising, and promotion carried on to international markets.

MK504 Sales Management

The course discusses the functions of sales management, like strategic planning, elaboration of programs, management, analysis, control, assessment of sales force, and negotiations.

MK505 Consumers Behavior

The course provides significant knowledge, as well as important models and techniques in consumer's behavior in its different dimensions, in a framework of individual, group, and company purchasing decisions.

MK511 Marketing Seminar

The course strengthens the marketing modern concepts and techniques, parting from information systems, marketing blend, integral marketing communication, and strategic marketing, applying the knowledge to decision-making and integrator marketing cases.

MK507 New Product and Service Strategies

The course comprises the most relevant aspects focused on the development of strategies for new products and services, parting from the methods that allow the determination of the market's requirements, solving inventive problems, and strategic innovation, to generate products of competitive quality in the global market.

SI501 E-business

The course develops the basic aspects of e-business, as well as the adequate elements of technological infrastructure, support, marketing, and security, to plan a successful business through the web.

MK508 Services Marketing

The course addresses the principal concepts and strategies of marketing services, assessing the elements of quality and the client's satisfaction, that allow the integration of successful and articulated service companies.

MK509 Social Marketing

The course introduces the significant concepts of social marketing, as well as the analysis surrounding its target population, the elements for development, and the administration of programs of that nature.

MK510 Marketing Politics

The course addresses the main concepts and strategies of marketing politics, such as identifying the community needs, profile, attitudes of the electorate, vote trends, management of focus groups, and politics image, as well as election campaigns.

International Business

AD501 International Business

The course presents the fundamental elements of international business, parting from a strategic management focus, and it offers patterns regarding the business strategies to different regions in the world.

RI515 Transcultural Management

The course addresses various topics of a transcultural nature, parting from the impact of culture in the organizational development, as well as the effects of the administration in human resources and communication, making a comparison analysis of Asia, Europe, the United States, and Latin America.

CB502 International Accounting

The course is about financial accounting aspects, those of international operations by transactions in foreign currency, taxes, assessment of subsidiary companies, comparison of international and accounting norms between Canada, the U.S, Mexico, and the International Accounting Norms Committee.

IM513 International Fiscal Legislation

The course offers a general knowledge on legal valid procedures regarding national and international taxes, as well as its interpretation and application regarding international business.

FZ507 International Finances

The course discusses the most relevant topics on financial international markets, international financing, the market of future merchandises, and the investment within the international currency system.

AD502 International Strategic Management

The course addresses international strategic management and offers a broad coverage in a global strategy dimension, domestic and global competitive advantage sources, as well as models of strategic management process.

DE500 Customs and Foreign Trade Legislation

The course studies the laws of foreign trade and customs legislations, as well as the legal regimen of international contracts, providing key analysis elements for the development of businesses in a global economy.

II501 International Logistics

The course analyzes the logistics chain in its international operation, and develops elements that allow the design and operation of integral logistics systems.

EC502 Regional Economical Development

The course comprises different aspects regarding regional economical development, parting from business initiatives and community enterprise, to the development of international businesses with an impact on the local economy, as well as knowing diverse elements that influence its performance and the challenges that the economical units face under this focus.

EC503 Economical Geography

The course addresses the analysis of basic postulates of economical geography and spatial economy, making a brief introduction to regional studies for different zones in the planet, and introduces linking elements with the study of geopolitics, and social and human development, proposing a discussion of some current affairs.

EC504 Mexico and its Commercial Treaties

Parting from the study of an international legal context and the analysis of certain legal institutions of international public law, the course offers a detailed overview of the international treaties regarding commerce, until knowing the free trade treaties that Mexico has signed.

EC505 Small and Medium Businesses and Global Markets

The course addresses new challenges and opportunities for small and medium businesses before the globalization of markets and its effects in strategic management, human resources, marketing, productivity, alliances, logistics, and concern for the environment. Likewise, it seeks to trigger a practical discussion on the role of small and medium businesses before a new reality and its human, social, and cultural surroundings.

Human Resources**RI506 Personnel Integration**

Students will apply and integrate their knowledge on general human resources administration, personnel recruitment and selection, interview techniques, modern tools for human resource administration, personnel induction, analysis, specification, description and assessment of posts.

RI507 Training and Development

The course addresses different topics focused on the correct training and development of human resources, parting from the detection of needs, design, implementation and assessment of programs guided towards effective personnel development, in Mexico's legal training framework.

RI508 Productivity and Labor Quality

Through this course, the concepts of quality and productivity are analyzed, along with their relation with human resources, the importance of management leadership in quality and productivity, and quality-productivity models and a culture of quality will be developed.

RI509 Working Relations

The course comprises the general analysis of individual and collective working relations, based on a current legal framework, as well as the different aspects on working conditions, unions, collective contract, strikes, and the study of social security in Mexico.

RI510 Organizational Development

This course is focused on the analysis of the fundamental concepts of Organizational Development, through a study of how and why organizations change, adapt themselves, or fail, as well as empirical tools and practical cases that diagnose and intervene successfully in processes of change and organizational innovation.

RI511 Wages and Compensations

The course addresses strategic planning and management of wages and compensations, analyzing the systems of post assessment, design of compensation structures, payment of incentives and benefits, as well as a regulatory framework and the Wages Administration System.

RI512 Business Communication

The course develops the elements of an intelligent communication strategy directed to different publics in the organization, making use of diverse techniques and communication tools, as well as the application of advanced information technologies.

RI513 Labor Competencies

The course is about one of the demands of quality models, which is the development of competencies of the people who work for the company. That is why, the elements and the tools for determining and assessing the Competency Working Norms are presented.

RI514 Ergonomics and Occupational Health

The study of ergonomics corresponds to the category of applied research, which ensures the integration of science in production, that offer measures towards relieving work and increasing efficiency and quality. This course will stress on achieving higher performance and quality in men's work, but most importantly, achieving a safer, richer and more creative in content job.

PS534 Organizations Psychology

The course offers an analysis on organization psychology, through the understanding and organizational development, having as framework, the integration of knowledge on human resources general administration.

RI515 Transcultural Management

The course discusses several topics of transcultural nature, parting from the impact on the culture of organizational development, as well as the effects in human resources administration and communication, making a comparison analysis in Asia, Europe, the United States, and Latin America.

PS533 Mexican's Psychology

The course comprises a discussion on cultural topics that have influenced the Mexican working area and the worker's own psychology, broadening the analysis to a configuration of the current Mexican society and the acquired values through our idiosyncrasy.

Public Management

AP504 Political Science

The course introduces the basic elements of the Theory of State and the ideas of political thinking to understand the transformations of the contemporary State.

AP505 Mexico's Political System

The course presents the development of the contemporary Mexican political system, its genesis parting from the revolutionary movement, the classical consolidation stage, the political and economical liberalization processes, until the proposal of an analysis and discussion of the vision of Mexico's new socio-political profile.

AP506 Public Politics

The course develops concepts, ideas and methodological tools on the focus and analysis of public politics, that better understand their design, implementation, impact, and assessment.

AP500 Public Administration

The course develops the most significant concepts of science in public administration, as well as the study of the structure of public administration in Mexico, and the knowledge of organizational theories and applied analysis tools applied to its surroundings, in addition to offering a comparative international vision.

CS500 Ethics in Public Charges

The course proposes a contemporary vision on ethics and public charges, parting from the analysis of a phenomenon of corruption, as well as the framework where administrative systems and valid legislations are developed. Different topics are addressed during the course to discuss the alternatives and mechanisms of transparency and fiscalization.

AP501 State and Municipal Administration

The course develops the legal fundamentals that comprise the state and municipal administration, and the mechanisms of coordination in the National Democratic Planning System framework, deepening later in the elements of strategic planning that allow an efficient administration of resources and benefits of quality public services.

FZ500 Public Finances

The course develops the fundamental concepts of public finances, addressing the analysis of the topics and application tools from a regional perspective to study the financial management in public administration.

EC502 Regional Economical Development

The course comprises different aspects regarding regional economical development, parting from business initiatives and community enterprise, to the development of international businesses with an impact on the local economy, as well as knowing diverse elements that influence its performance and the challenges that the economical units face under this focus.

AP502 Government Modernization

The course provides the elements for the analysis of administrative functions and procedures, as well as the discussion of relevant topics in a government modernization framework.

AP507 Compared Public Politics

The course provides the analysis elements to study a comparison of public politics, and the revision of the different ways governmental institutions operate, administrative departments, and their public politics, in our country's case, in comparison with other international experiences.

DE502 Constitutional Rights

The course discusses the constitutional basis of the structure, organization, and functioning of the Mexican State, individual and social rights of the principles and values that form the Constitution, and the elements and control procedures that form it. Likewise, it offers an approximation to the constitutional right compared in the case of the United States and Mexico.

DE503 Administrative Law

The course offers a general overview of administrative law, the structure and organization of public administration in Mexico, as well as the regimen of obligations and responsibilities that compose it.

AP508 Culture of Law

The course addresses the values inherent in human beings in contemporary society, in a reflective way, and allows the critical analysis of the deterioration of social life, through phenomena like delinquency, organized crime, and corruption, seeking to generate discussions of alternatives in a culture of law framework.

AP503 Public Transborder Administration

The course addresses the fundamental elements of local transborder development, through the study and discussion of politics and systems in governmental management, compared federalism, local public politics, public finances, environmental politics, as well as justice and crime.

AP511 Administration of non-governmental Agencies

The course develops the elements that strengthen the management of organizations in civil society, parting from the analysis of our social, legal, economical, surroundings, and strategic management necessary for a successful performance.

AP512 Government Administration

The course addresses the fundamental aspects of planning, programming, and budgets within public administration in Mexico, and contributes with additional elements on financial strategic planning, as well as the management of human resources, materials, and information.

AD506 The Family Business

The course addresses the knowledge on the characteristics of family businesses, its main sources of conflict and the tools to prevent them and manage them. Likewise, it presents the necessary elements to achieve the company's professionalization, as a means to reach success, and broadens the information on the technical and legal aspects to guarantee the continuity of the company through an effective succession.

II510 Total Quality Management

II511 Quality Norms Systems

II512 Quality Engineering

II514 Production Systems

II517 Japanese Techniques

MF501 Manufacturing Techniques

MDCI MASTER´S DEGREE IN INTERNATIONAL CORPORATE LAW

- Business Legal Framework
- Commercial Contracts
- Negotiable Instruments and Commerce Code
- Federal Labor Law I
- Federal Labor Law II
- Fiscal Law
- Financial Banking Law
- Legal Regimen in Customs and Foreign Trade
- International Conflict
- Treaties and Commercial Agreements
- Property and Intellectual Rights
- Environmental Law
- Capstone Project

DE507 Business Legal Framework

The course develops the fundamental elements of the business legal framework, civil and commercial contracts, negotiable instruments and credit operations, property and intellectual rights, foreign investment and immigration rights, ecological and labor law, and the legal means to solve conflicts.

DE508 Commercial Contracts

In this course, students are related to and know the field of action of Commercial Law and the concept of intermediation, applying it to diverse cases that involve the elaboration of civil and commercial contracts, in addition to knowing the principal functions of the different subjects participating in acts of commerce.

DE509 Negotiable Instruments and Commerce Code

This course covers the different Negotiable Instruments, its formal elements, legal nature, general characteristics, classification, representation, and legal and doctrinal meaning, as well as integrating the related elements In the Code of Commerce and Commercial Law.

DE510 Federal Labor Law I

This course introduces students in the concepts that originated this law, labor law, its interpretation, sources and hierarchies. The will in relation to work, employers, employees and all those general concepts that regulate, modify, cancel or end a working relation.

DE511 Federal Labor Law II

Some legal concepts are analyzed, such as: professional association, unions, federations, collective contracts, working regulations, strikes, and protection, as well as those concepts concerning inheritance law work.

DE512 Fiscal Law

At the end of the course, students will be able to know and manage concepts of Fiscal Law, its diverse ordinances, and the parts that intervene in the development of fiscal obligations, as well as the ways to fulfil it.

DE513 Financial Banking Law

This course includes the necessary comprehension elements to manage a fiscal structure in our tax system and its procedures; its importance relies on the knowledge that students obtain from the background of other courses regarding fiscal tax matters.

DE514 Legal Regimen in Customs and Foreign Trade

The course comprises a general analysis of the national legal framework regarding Customs and Foreign trade, as well as the way to interpret it in specific cases.

DE515 International Conflict

This course covers aspects of the Foreign Investment Law and its general concepts.

DE516 Treaties and Commercial Agreements

This course presents some resources in the commercial negotiation area, from the preparation stages, conflicts, and commitments and agreements; such process will conclude negotiations with other cultures; in addition, arbitration legislation, and international arbitration will be analyzed.

DE517 Property and Intellectual Rights

In this course, students will be related to the meaning of inventions, useful models, and industrial designs, brands and commercial names, by applying these to practical cases that involve the process for trademarks, analyzing similarities and differences with other countries, as well as the documentation required. Additionally, students will know the administrative procedures, inspection, fines and administrative penalties for the corresponding felonies.

DE518 Environmental Law

The course offers a general overview of the regulatory normative framework for the protection of the environment in Mexico, in the international, national, state, and local areas.

DE519 Capstone Project

Through the course, students will develop and prove their capacity on analysis, group work, interpretation, and application of fiscal dispositions, through the proposal of solution strategies within a legal framework, in the search for the optimization of the company´ financial resources.

ENGINEERING COLLEGE

ENGINEERINGS	Ensenada	Mexicali	Tijuana
Computer Science Engineering		•	•
Electronic Cybernetics Engineering	•	•	•
Industrial Engineering	•	•	•
Digital Graphic Design Engineering		•	•
Mechatronics	•	•	•
Mechanical Engineering	•	•	•
Software Engineering	•		

GRADUATE STUDIES	Ensenada	Mexicali	Tijuana
Master's Degree in: Engineering, Industrial Engineering, Materials and Logistics Administration, Quality and Productivity, Manufacturing Design Processes, Networks and Telecommunications, Automation and Control, Distributed Computer Systems, Microelectronics and Semiconductors, Environment and Sustainable Development, Aerospace Engineering.	•	•	•

Miguel Salinas Yáñez

Director of the Engineering College

TELÉPHONE: 52 (686) 567 3700 EXTENSION: 3721

email: msalinas@cetys.mx

Carlos González Campos

School of Engineering Dean

ENSENADA CAMPUS

TELEPHONE: 52 (646) 174 5599 EXTENSIÓN: 133

email: caglz@ens.cetys.mx

Mauro Chávez López

School of Engineering Dean

MEXICALI CAMPUS

TELEPHONE: 52 (686) 567 3708

email: mauro@cetys.mx

Roberto Salas Corral

School of Engineering Dean

TIJUANA CAMPUS

TELEPHONE: 52 (664) 903 1898 EXTENSIÓN: 362

email: rsalas@cetys.net

ICC Computer Science Engineering

FIRST SEMESTER

MA400 MATHEMATICS

This course is offered to all students that study a Business Administration or Engineering major, in order to provide them basic mathematics that allow them to take the following math courses from their training area. The course addresses the concepts of logical mathematics in a practical way.

PRE-REQUISITE:

CC400 PROGRAMMING METHODS I

This course expects engineering students to understand and apply the basic concepts of structured programming, oriented to objects, to design algorithms and create computer programs, encouraging students to solve numerical problems, and manage characters. The course will emphasize the creation of flux diagrams, algorithms and the use of a programming language to solve practical problems. The course is designed to take students along a smooth path towards learning the Programming Methodology, following strategies for problem solution. In order to achieve this, there is a series of topics that go from simple problems to problems of medium complexity.

PRE-REQUISITE:

CC401 INTRODUCTION TO COMPUTER SCIENCE

This course is designed to introduce first semester students to university life, and discover the surroundings regarding engineering as a career, the knowledge of the major that students have chosen as a professional career, and the acquisition of basic knowledge of some of the areas that comprise such major. Likewise, during the course, students will be provided with the introduction, necessary for the different areas by which CETYS University performs, so students make this new university theirs, and use the facilities properly and the services it offers. The knowledge and skills developed during this course will be very useful for students to better understand the program of the major they chose, the courses it comprises, the relation between them and the professional and personal profile that is expected from them when graduating.

PRE-REQUISITE:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:

SECOND SEMESTER

MC400 COMPUTER DESIGN

This course's objective is for students to acquire basic knowledge that is based on engineering design, and through the use of computer aided-design (CAD) software, students can apply such knowledge in the elaboration and interpretation of prints that describe the size and shape of products, and industrial parts. The course belongs to the engineering training area, and is essential to all those majors that have to do with design and manufacturing of parts and products. Its nature is totally practical, additionally, the course is carried on in a shop, where students will learn, at least, one CAD software. The knowledge and skills developed during this course will be very useful for students to better understand and successfully perform in courses related to the design of parts and manufacturing products, and in general, any course within their program involving the elaboration and interpretation of manufacturing prints.

PRE-REQUISITE:

MA401 DIFFERENTIAL CALCULUS

This course is a theoretical one, it will allow students the correct formulation, solution, and discussion of problems that involve derivatives of functions of one variable. Students must apply calculus of derivatives in the evaluation of optimum values of algebra and transcendent functions.

PRE-REQUISITE: MA400 Mathematics

CC402 PROGRAMMING METHODS II

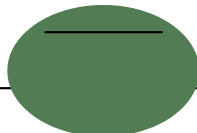
This course is a continuation of Programming Methods I, and is oriented to completing a basic body of existing elements in Java programming language, that allows the solution of problems with a focus on objects. The course comprises the study of programming fundamentals oriented to objects, so students can solve problems creating their own classes that imply the use of arrangements, files and data structure, all this in an environment of graphic programming. Programming Methods II, is a relevant course within the engineering program, since in addition to computer programming, it is a fundamental knowledge of any engineer, it promotes analytical and creative skills in students. Furthermore, the course will be used as a base and/or tool for other courses that students will course in their program.

PRE-REQUISITE: CC400 Programming Methods I

FI400 PHYSICS

It is a theoretical-practical course, based on the statistics of particles and rigid solids. Practices made constitute the initial immersion of engineering students in Metrology, as well as the implementation of simple devices and the correct report of an experiment's report. Basically, students question nature on the condition of static equilibrium and design devices to obtain such quantitative information on it. Equipment, devices, and techniques will be learned to use and apply. A pre-requisite of this course is Math, and the pre-conceptions of Physics acquired in High School.

PRE-REQUISITE:



CC403 COMPUTER COMPONENTS AND SYSTEMS

Students are expected to know and understand the diverse hardware elements that form a computer, as well as its organization and interaction with different software elements. The general topics of the course are: Introduction to the organization of computers, number systems, and data representation, digital computers, computer and peripheral systems, installation, and service.

PRE-REQUISITE:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

MA402 INTEGRAL CALCULUS

This is a theoretical-practical course preceded by Math and Differential Calculus. Here students will learn and apply the concepts of antiderivative and definite integral, and they will identify the main applications related to the engineering sciences. It includes techniques for the integration of algebra and transcendental functions, as well as their applications to calculating areas and volume. This course is very linked to math, differential calculus, physics I, II, and III, multivariable calculus, differential equations, probability, statistic inference, operation research models II, and systems simulation, among others. Therefore, this is a fundamental course in students' program.

PRE-REQUISITE: MA400 Math; MA401 Differential Calculus

FI401 PHYSICS II

Throughout the course, the kinematics and dynamic effect is studied, resulting in two- and three-dimension systems of force acting on a particle. The general topics of the course are: kinematics of particles, energy conservation, work and amount in motion. At the end of the course, students will acquire skills, attitudes, abilities, and essential knowledge for the design and manufacturing motion systems that are useful for the practice of engineering.

PRE-REQUISITE: FI400 PHYSICS I

MA403 NUMERICAL METHODS

This course is included in Mechanical, Manufacturing, Industrial, Cybernetic Electronics, and Computer Science Engineering. Its objective is the establishment of a platform of theoretical and application knowledge for the solution of problems presented in the engineering area in any of its fields; such problems can be presented in electronic applications, models, and system simulation, finite models, heat transference, chemistry, marketing, and economics, among others. During the course, the following topics will be studied: solution of root equations, roots of polynomials, linear equation systems, curve fitting for linear regression and linear interpolation, and minimum squares, as well as diverse methods for the process of numerical integration. The solution to these problems will be based on non-traditional methods and oriented to the use of computers as a tool of great use.

PRE-REQUISITE: MA400 Math, CC400 Programming Methods I; CC402 Programming Methods II

CC404 DATA STRUCTURE

This course addresses aspects related to the development of programs from an efficient point of view. Different forms of data organization are analyzed, as well as related algorithms. Each different form of organization carries a cost in computer resources, in a way that the the form of studying such costs is assessed. Data organizations are defined as types of abstract data, which are implemented in a programming language oriented to objects. This is a classical fundamental course in Computer Science, and required in all programs within this area. The importance that this has in CETYS University's programs, is to be a base for students, indispensable to study latter courses, such as, manufacturing, operation systems, data base, advanced programming, networks, and in general, advanced programming topics. The course is placed in the third semester for Computer Science, Software, Computer Technologies Engineerings, and in fifth semester for Electronic Cybernetics Engineering.

PRE-REQUISITE:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER

MA404 PROBABILITY

This course reviews the basic axioms and the fundamental models of probability for the analysis of a random behavior of variables in engineering systems. The concept of math expectation and its applications in decision-making is included.

PRE-REQUISITE:

CC405 ALGORITHMS DESIGN AND ANALYSIS

This course can be considered a broad study (theoretical and practical) of algorithms that are applied in the solution of real problems that are often presented in computer applications. For the theoretical treatment of algorithms, the basic techniques and principles of computer complexity are presented: worst case scenario, average cases, space consuming and inferior bounds in the complexity of problems. At the end, a brief introduction to the problem area given. The practical treatment consists of implementing algorithms using programming language and tools oriented to objects, visual studio .NET using C is suggested. This course is very important within Computer Science, because it strengthens the theoretical fundamentals in professionals, and efficient software design aspects, mathematically proved.

PRE-REQUISITE:

FI402 PHYSICS III

This is a theoretical-practical course; students will receive the knowledge, skills, abilities, and attitudes required as the fundamentals of electromagnetism. During the course, students solve problems, develop lab practices, implement simple devices, and develop projects. This course is associated to Physics I, and II, which are pre-requisites. It is also related to specialized courses that involve presence at the lab to make measurements with a multimeter and an oscilloscope. A solid training is needed in Differential and Integral Calculus, and abstraction skills towards vectorial analysis.

PRE-REQUISITE: FI401 Physics II

SI400 DATABASE DESIGN

Students will be exposed to the concept of data base, from a theoretical-practical perspective, since they will put into practice their knowledge of the course through SQL, and to design a data base project course. Firstly, the fundamental theories of databases in general will be studied, as well as the entity-relation model. Then, the relational model will be studied in detail as a fundamental theory for most current data base systems.

Afterwards, the logical design of a data base will be studied, using the normalization process, and finally, the standard language SQL will be studied for the use of a relational data base BDR. This course is fundamental for all students studying a computing program, since data bases are an indispensable element in all information systems. In order to study this course, students are required to have basic Data Structure knowledge, Information Systems, and they must also know how to program in any language from applications development.

PRE-REQUISITE:

CE400 COMPUTER CONTROLLING

The study of systems is important to every engineer, and even more, control. Even though each engineering interacts in different levels with such physical control systems, each require the basic fundamental and practical concepts about systems and process controls. Additionally, it is important for Computer Science students to have knowledge about the different hardware elements that form a computer and how to manipulate them. This course intends to offer a general overview to computer science students, about the fundamentals of controlling a physical system, and the different hardware and software elements that form a process control system in a computer. The course begins with an introduction to control systems, its terminology, the elements and its application to physical process controls. Then, the elements that form a process control system are studied involving a computer. Then, the study of different types and forms of interphases there may be between a process and a computer. Finally, the study of automation and industrial process controls and the different ways the process control is implemented in an industry according to its nature.

PRE-REQUISITE:

FIFTH SEMESTER

MA405 STATISTICS INFERENCE

In this course, students will be exposed to the fundamental concepts of classical statistics, seen as analysis and synthesis tools of information to facilitate decision-making in planning, design, operation and systems control of their interest. During the course, students will develop skills to identify opportunities to apply these concepts, by making and solving the corresponding inference problems. In order to show mastery of the course, they will develop a capstone project, that consists of making and solving statistic inference problems of their interest. This course recovers from Probability, the basic axioms of probability and concepts of random variables, distribution of probability, math expectations and variance, while the math courses deal with concepts of fusion and differential and integral calculus of one or two independent variables. From this point in the program, the course will be closely linked to experiment design, operations research models II, system simulation, software development process, artificial intelligence I, and the production systems engineering courses.

PRE-REQUISITE:

MA406 MULTIVARIANT CALCULATION

In this course, students will develop knowledge, skills, and abilities required to solve problems that involve more than one independent variable, derivatives, and integrals. Likewise, they will manage and pose problems involving parametric and polar equations in their description. It is related to Differential and Integral Calculus which are pre-requisites, as well as Programming I and II, which allow solving problems with assistance of the computer.

PRE-REQUISITE:

CC406 OPERATING SYSTEMS

This course is included in Computer Science Engineering and Electronic Cybernetics Engineering to strengthen the skills in the analysis and evaluation of operating systems. The focus is to continue through a conceptual analysis of the components of any operating system: processes, memory, synchronization mechanisms, blocking, input and output devices, and files systems. On the practical side, students will develop programs using Java programming language in a UNIX operating system, or a similar one.

PRE-REQUISITE:

CC407 ADVANCED PROGRAMMING

In this course, students will develop knowledge, skills, and abilities required to solve problems using the computer, by developing applications oriented to objects under the .NET environment. Students require mastery of programming and problem solution using algorithms. The course is related to Programming I, and II which are pre-requisites, and this course is a pre-requisite for each course in the sixth semester.

PRE-REQUISITE:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

SIXTH SEMESTER

CC408 INFORMATION SYSTEMS DESIGN AND ANALYSIS

This course expects students to understand the importance of software in current society and in the future one; likewise, know and apply techniques, methodologies, and tools to carry on the analysis and design of information systems. They will then be introduced to the concepts and principles of software engineering as an area of computer science addressing the analysis and design of systems oriented to objects, in which the model language called UML will be used; students who take this course are required to know programming oriented to objects.

PRE-REQUISITE:

CC409 DATABASE SYSTEMS

This course expects students to know the functions of a Data Base Administrator DBA. The management of transactions will also be studied, regarding recovery and concurrency control. Students will use tools to carry on functions like DBA, from the creation of data bases, information security, back up, and recovery, as well as exporting and importing data, and technical follow up. Students will know the importance of store procedures and triggers in data base areas and will develop examples where they are applied.

PRE-REQUISITE:

CC410 AUTOMATION THEORY

The course allows students to acquire knowledge, skills, and abilities to propose automatic machines and evaluate the complex characteristics of an algorithm; likewise, they will be able to justify why certain problems can be non-computing.

PRE-REQUISITE:

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

SEVENTH SEMESTER

SI401 SOFTWARE DEVELOPMENT PROCESS

Students from computing programs are centered in learning a software development process, focused on objects. This is made through a theoretical-practical perspective. The course offers a topic where the software development process is presented in all its phases and techniques, as well as the important concepts of process, how to administer it, and software technology that can be applied according to its implementation requirements. The course also presents each technique to be developed in each phase of the process; in this part, the course will deal with process administration aspects, in detail, and students will make specific practicum. The third topic of the course addresses the aspects of process administration, it won't be as detailed as the previous one, it is more informative and it is suggested that these are seen during the course in the form of shops, not necessarily at the end. For effective learning, it is suggested that students develop a software project, from beginning to end.

PRE-REQUISITE: **CC404 Data Structure; CC408 Information Design Systems and Analysis**

CC411 DESIGN OF COMPILERS

In this course, students are exposed to the concept of compilers from a theoretical-practical perspective, since they will design and develop a compiler. During the development of this course, students will establish an operating environment from their compiler's operation, they will design an assembly language, develop an assembler and a disassembler, they will analyze, design, and implant a virtual machine, they will define a high level programming language, and finally develop a compiler. This course is fundamental for all students in computer science, since the concepts are an indispensable element in developing any software base.

PRE-REQUISITE: **CC404 Data Structure; CC408 Information Design Systems and Analysis; CC410 Automation Theory**

CE401 COMPUTER NETWORKS

In this course, students will be exposed to the knowledge and main fundamentals, in a theoretical-practical way, in the field of computer networking. This course will begin from the study of the 7 layers of the OSI model and the TCP/IP model, focusing mainly in link layers, networks, and transportation. Also, the most important aspects forming local area networks LAN will be studied, as well as communication means and devices that work in these networks. The topic of metropolitan networks MAN will also be studied, and wide area networks WAN, analyzing the main equipment and routing protocols that make it possible for data packages to travel among these networks and reach their destination. Another important aspect in the course will be the study of wireless networks and also new technologies that are currently being used in computer networking, which allow us to use applications in real time for voice, telephones, videoconferencing, and other multimedia applications. During the course, one or more visits to different computing centers in local companies will be made, to analyze and know the different solutions and characteristics that form these information networks, as well as to have a more complete and updated vision of what happens in this area.

PRE-REQUISITE: CC404 Data Structure; CC406 Operating Systems

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

ELECTIVE I

PRE-REQUISITE:

EIGHT SEMESTER

CC412 DISTRIBUTED SYSTEM TOPICS

In this course, students from Computer Science Engineering will be exposed to the main concepts of distributed systems, from their characteristics, communication, security, distributed data base design, and existing technologies in the market, for the development of a distributed application. The course will be developed in a theoretical-practical way where the theoretical focus will consist on analyzing concepts, and communication and security techniques with what refers to Distributed System processes, and apply them by developing a communication program between processes using the TCP/IP protocol. On the other hand, methodologies for the design of distributed data bases will be analyzed in a practical way, students must analyze and solve a concrete problem for which they must design and propose a distributed solution. This course is fundamental for all students, since the trend in the development of application systems is about distributed computing.

PRE-REQUISITE:

CE402 COMPUTER NETWORK APPLICATIONS

This course is designed so students can put into practice the knowledge acquired in the Computing Network area, which takes into account HARDWARE aspects, as well as SOFTWARE aspects. Throughout the course, students will design and assemble all the necessary infrastructure for the good functioning of a TCP/IP network, in a practical way, considering several means of communication and the necessary equipment to configure a local area network LAN. One of the main points of this course, is that students will be able to instal, in a practical way, and configure two of the main types of servers currently used (Windows server and Linux), with the main network services they offer. One of the unit of the course considers aspects, in a basic from, on the safety of computer networks, by working in a computer network environment.

PRE-REQUISITE:

CC413 ARTIFICIAL INTELLIGENCE

In this course, students will first know and understand that AI is an interdisciplinary science that comprises several areas of knowledge, however, it is linked to computer science. Likewise, they will know and understand its main applications, and current and future research lines. They will then center themselves on learning the fundamental theoretical techniques of IA through 2 focuses: a theoretical and a practical one. The theoretical focus consists of analyzing IA's techniques from an abstract point of view, without applying it to concrete problems. On the other hand, the practical focus will consist on analyzing a concrete problem, for which they must design and develop programs where the theoretical techniques of IA are applied and prove its applicability. The course will use the Scheme programming language (LISP dialect) for the development of programs and practicum. Learning the Scheme language will be students' responsibility.

PRE-REQUISITE:

HU402 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

ELECTIVE II

PRE-REQUISITE:

ICE CYBERNETIC ELECTRONICS ENGINEERING

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
MA400	MATHEMATICS	4	0	8	MA405	STATISTICS INFERENCE	4	0	8
CC400	PROGRAMMING METHODS I	4	0	8	CC404	DATA STRUCTURE	4	0	8
CE403	INTRODUCTION TO ELECTRONIC CYBERNETICS	4	0	8	CC406	OPERATING SYSTEMS	4	0	8
CS401	THINKING SKILLS	4	0	8	CE408	ANALOG ELECTRONICS I	4	0	8
EC400	GLOBALIZATION AND ECONOMICAL DEVELOPMENT	4	0	8	ID400	ADVANCED COMMUNICATION IN ENGLISH	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
MC400	COMPUTER SKETCHING	4	0	8	CE409	MICRO PROCESSOR DESIGN	4	0	8
MA401	DIFFERENTIAL CALCULUS	4	0	8	CE410	ANALOG ELECTRONICS II	4	0	8
CC402	PROGRAMMING METHODS I	4	0	8	CE411	CONTROL SYSTEMS	4	0	8
FI400	PHYSICS	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
CE404	DIGITAL ELECTRONICS I	4	0	8	HU400	MAN AND ENVIRONMENT	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
MA402	INTEGRAL CALCULUS	4	0	8	CE412	INTERFACE DESIGN	4	0	8
FI401	PHYSICS II	4	0	8	CE413	COMPUTER NETWORKS	4	0	8
MA403	NUMERICAL METHODS	4	0	8	CE414	POWER ELECTRONICS	4	0	8
CE405	DIGITAL ELECTRONICS II	4	0	8	HU401	MAN , HISTORY AND SOCIETY	4	0	8
CS400	ADVANCED COMMUNICATION IN SPANISH	4	0	8		ELECTIVE I	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
MA404	PROBABILITY	4	0	8	CC414	SELECT PROGRAMMING TOPICS	4	0	8
MA407	DIFFERENTIAL EQUATIONS	4	0	8		COMPUTER NETWORK			
FI402	PHYSICS III	6	0	8	CE402	APPLICATIONS	4	0	8
CE406	COMPUTER ARCHITECTURE	6	0	8	CE415	MECHATRONICS	4	0	8
CE407	ELECTRIC CIRCUITS	4	0	8	HU402	MAN AND ETHICS	4	0	8
		24	0	40		ELECTIVE II	4	0	8
							20	0	40

FIRST SEMESTER

MA400 MATHEMATICS

This course is offered to all students that study a Business Administration or Engineering major, in order to provide them basic mathematics that allow them to take the following math courses from their training area. The course addresses the concepts of logical mathematics in a practical way.

PRE-REQUISITE:

CC400 PROGRAMMING METHODS I

This course expects engineering students to understand and apply the basic concepts of structured programming, oriented to objects, to design algorithms and create computer programs, encouraging students to solve numerical problems, and manage characters. The course will emphasize the creation of flow diagrams, algorithms and the use of a programming language to solve practical problems. The course is designed to take students along a smooth path towards learning the Programming Methodology, following strategies for problem solution. In order to achieve this, there is a series of topics that go from simple problems to problems of medium complexity.

PRE-REQUISITE:

CC403 INTRODUCTION TO CYBERNETIC ELECTRONICS ENGINEERING

This course is designed to introduce first semester students to university life, and discover the surroundings regarding engineering as a career, the knowledge of the major that students have chosen as a professional career, and the acquisition of basic knowledge of some of the areas that comprise such major. Likewise, during the course, students will be provided with the introduction, necessary for the different areas by which CETYS University performs, so students make this new university theirs, and use the facilities properly and the services it offers. The knowledge and skills developed during this course will be very useful for students to better understand the program of the major they chose, the courses it comprises, the relation between them and the professional and personal profile that is expected from them when graduating.

PRE-REQUISITE:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:

SECOND SEMESTER

MC400 COMPUTER DESIGN

This course's objective is for students to acquire basic knowledge that is based on engineering design, and through the use of computer aided-design (CAD) software, students can apply such knowledge in the elaboration and interpretation of prints that describe the size and shape of products, and industrial parts. The course belongs to the engineering training area, and is essential to all those majors that have to do with design and manufacturing of parts and products. Its nature is totally practical, additionally, the course is carried on in a shop, where students will learn, at least, one CAD software. The knowledge and skills developed during this course will be very useful for students to better understand and successfully perform in courses related to the design of parts and manufacturing products, and in general, any course within their program involving the elaboration and interpretation of manufacturing prints.

PRE-REQUISITE:

MA401 DIFFERENTIAL CALCULUS

This course is a theoretical one, it will allow students the correct formulation, solution, and discussion of problems that involve derivatives of functions of one variable. Students must apply calculus of derivatives in the evaluation of optimum values of algebra and transcendent functions.

PRE-REQUISITE: MA400 Mathematics

CC402 PROGRAMMING METHODS II

This course is a continuation of Programming Methods I, and is oriented to completing a basic body of existing elements in Java programming language, that allows the solution of problems with a focus on objects. The course comprises the study of programming fundamentals oriented to objects, so students can solve problems creating their own classes that imply the use of arrangements, files and data structure, all this in an environment of graphic programming. Programming Methods II, is a relevant course within the engineering program, since in addition to computer programming, it is a fundamental knowledge of any engineer, it promotes analytical and creative skills in students. Furthermore, the course will be used as a base and/or tool for other courses that students will course in their program.

PRE-REQUISITE: CC400 Programming Methods I

FI400 PHYSICS I

It is a theoretical-practical course, based on the statistics of particles and rigid solids. Practices made constitute the initial immersion of engineering students in Metrology, as well as the implementation of simple devices and the correct report of an experiment's report. Basically, students question nature on the condition of static equilibrium and design devices to obtain such quantitative information on it. Equipment, devices, and techniques will be learned to use and apply. A pre-requisite of this course is Math, and the pre-conceptions of Physics acquired in High School.

PRE-REQUISITE:

CC404 DIGITAL ELECTRONICS I

Digital Design is fundamental for Cybernetic Electronics Engineering students at CETYS University; that is why there are a series of courses in this program that have the purpose of preparing and training future professionals in this area. Digital Electronics I is the first course in this series of courses that form the Digital Design Line of Work, it provides the fundamentals for the rest of the courses. The course has a lab; a strong emphasis is made in proving the theoretical fundamentals that will be studied throughout the course, by doing practical work at the lab. During the course, analysis techniques, and design of combinational and sequential digital circuits will be studied and applied, as well as applying integrated circuits at a small and medium scale for the design and construction of sequential digital circuits. Design and analysis tools will be used based on computers. Logical Programmable Devices will be studied and designs of combinational and sequential circuits will be made based on them.

PRE-REQUISITE:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

MA402 INTEGRAL CALCULUS

This is a theoretical-practical course preceded by Math and Differential Calculus. Here students will learn and apply the concepts of antiderivative and definite integral, and they will identify the main applications related to the engineering sciences. It includes techniques for the integration of algebra and transcendental functions, as well as their applications to calculating areas and volume. This course is very linked to math, differential calculus, physics I, II, and III, multivariable calculus, differential equations, probability, statistic inference, operation research models II, and systems simulation, among others. Therefore, this is a fundamental course in students' program.

PRE-REQUISITE: MA400 Math; MA401 Differential Calculus

FI401 PHYSICS II

Throughout the course, the kinematics and dynamic effect is studied, resulting in two- and three-dimension systems of force acting on a particle. The general topics of the course are: kinematics of particles, energy conservation, work and amount in motion. At the end of the course, students will acquire skills, attitudes, abilities, and essential knowledge for the design and manufacturing motion systems that are useful for the practice of engineering.

PRE-REQUISITE: FI400 PHYSICS I

MA403 NUMERICAL METHODS

This course is included in Mechanical, Manufacturing, Industrial, Cybernetic Electronics, and Computer Science Engineering. Its objective is the establishment of a platform of theoretical and application knowledge for the solution of problems presented in the engineering area in any of its fields; such problems can be presented in electronic applications, models, and system simulation, finite models, heat transference, chemistry, marketing, and economics, among others. During the course, the following topics will be studied: solution of root equations, roots of polynomials, linear equation systems, curve fitting for linear regression and linear interpolation, and minimum squares, as well as diverse methods for the process of numerical integration. The solution to these problems will be based on non-traditional methods and oriented to the use of computers as a tool of great use.

PRE-REQUISITE: MA400 Math, CC400 Programming Methods I; CC402 Programming Methods II

CE405 DIGITAL ELECTRONICS II

Digital Design is fundamental for Cybernetic Electronics Engineering students at CETYS University; that is why there are a series of courses in this program that have the purpose of preparing and training future professionals in this area. Digital Electronics II uses what was learned during the first course and throughout it, advanced techniques in the design of sequential digital circuits are shown; sequential and iterative circuits, applications on a medium and large scale, memories, counters, and logical programmable devices, design tools and computer based analysis. The course has a lab; a strong emphasis is made in proving the theoretical fundamentals that will be studied throughout the course, by doing practical work at the lab. The general topics of the course are: introduction to sequential digital systems, design with integrated components, and interphases with the analogue world.

PRE-REQUISITE:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches or orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISITE: CS403_Culture I

FOURTH SEMESTER

MA404 PROBABILITY

This courses reviews the basic axioms and the fundamental models of probability for the analysis of a random behavior of variables in engineering systems. The concept of math expectation and its applications in decision-making is included.

PRE-REQUISITE:

MA407 DIFFERENTIAL EQUATIONS

In this course, engineering students are exposed to reasons of change and differential equations, identifying and applying their analytical solution methods to model the dynamic behavior of natural and artificial systems related to the field of engineering. Specifically, the course includes the study of different solution methods for differential equations of first order, solution methods for linear differential equations of higher order with constant coefficient and the use of Laplace for its solution.

PRE-REQUISITE:

FI402 PHYSICS III

This is a theoretical-practical course; students will receive the knowledge, skills, abilities, and attitudes required as the fundamentals of electromagnetism. During the course, students solve problems, develop lab practices, implement simple devices, and develop projects. This course is associated to Physics I, and II, which are pre-requisites. It is also related to specialized courses that involve presence at the lab to make measurements with a multimeter and an oscilloscope. A solid training is needed in Differential and Integral Calculus, and abstraction skills towards vectorial analysis.

PRE-REQUISITE: FI401 Physics II

CE406 COMPUTER ARCHITECTURE

An important characteristic of Cybernetic Electronics Engineering students at CETYS University, is the design of computer systems, that is why, the program includes a series of courses that have the purpose of preparing and training the future professional in this field. The computer architecture course is one of those basic courses that allow the Cybernetic Electronics Engineer achieve this. The course has lab work, a strong emphasis is made in proving the theoretical fundamentals that will be studied throughout the course, by doing practical work at the lab. During the course the history of computers will be studied, from the first mechanical models, to the current supercomputers. The different functional units of computers will be analyzed, like control units, memory, input, output, and of course, the arithmetic-logical unit. Circuits will be build in the lab, and they will make basic functions. The final part of the course consists of programming a computer at a low level, in an assembly language. The general topics of the course are: history of computers, central processing unit, memory unit, input/output unit, control unit, and assembly programming.

PRE-REQUISITE:

CE407 ELECTRIC CIRCUITS

The purpose of this course is to encourage students regarding the analysis techniques in electric circuits. During the course, only electric networks with passive elements will be analyzed, however, the analysis techniques are used in any electric circuit with active and passive elements. During the course, diverse electric circuits will be studied using different methods. The course begins with purely resistive circuits applying the different analysis methods. Later, the transitory behavior of circuits with non linear elements are analyzed, to finish with behavior in a stable state of alternate current for this type of circuits. A solid information on Differential and Integral Calculus is needed, along with a previous or parallel course of Electricity and Magnetism, and Differential Equations. This course is an indispensable pre-requisite for all those courses regarding electronics and electricity.

PRE-REQUISITE:

FIFTH SEMESTER

MA405 STATISTICS INFERENCE

In this course, students will be exposed to the fundamental concepts of classical statistics, seen as analysis and synthesis tools of information to facilitate decision-making in planning, design, operation and systems control of their interest. During the course, students will develop skills to identify opportunities to apply these concepts, by making and solving the corresponding inference problems. In order to show mastery of the course, they will develop a capstone project, that consists of making and solving statistic inference problems of their interest. This course recovers from Probability, the basic axioms of probability and concepts of random variables, distribution of probability, math expectations and variance, while the math courses deal with concepts of fusion and differential and integral calculus of one or two independent variables. From this point in the program, the course will be closely linked to experiment design, operations research models II, system simulation, software development process, artificial intelligence I, and the production systems engineering courses.

PRE-REQUISITE:

CC404 DATA STRUCTURE

This course addresses aspects related to the development of programs from an efficient point of view. Different forms of data organization are analyzed, as well as related algorithms. Each different form of organization carries a cost in computer resources, in a way that the the form of studying such costs is assessed. Data organizations are defined as types of abstract data, which are implemented in a programming language oriented to objects. This is a classical fundamental course in Computer Science, and required in all programs within this area. The importance that this has in CETYS University's programs, is to be a base for students, indispensable to study latter courses, such as, manufacturing, operation systems, data base, advanced programming, networks, and in general, advanced programming topics. The course is placed in the third semester for Computer Science, Software, Computer Technologies Engineerings, and in fifth semester for Electronic Cybernetics Engineering.

PRE-REQUISITE:

CC406 OPERATING SYSTEMS

This course is included in Computer Science Engineering and Electronic Cybernetics Engineering to strengthen the skills in the analysis and evaluation of operating systems. The focus is to continue through a conceptual analysis of the components of any operating system: processes, memory, synchronization mechanisms, blocking, input and output devices, and files systems. On the practical side, students will develop programs using Java programming language in a UNIX operating system, or a similar one.

PRE-REQUISITE:

CE408 ANALOGUE ELECTRONICS I

An important skill for Cybernetic Electronics Engineers at CETYS is the design of analogue circuits, that is why there is a series of courses in this program that intend to prepare and train the future professional in this field. The course Analogue Electronics I, is one of the basic courses that allow the Cybernetic Electronics Engineer achieve this. The course has lab work, a strong emphasis is made in proving the theoretical fundamentals that will be studied throughout the course, by doing practical work at the lab. During the course semiconductor materials will be studied, and their electrical characteristics. An analysis of the union of materials N and P type will be made, since this gives origin to semiconductor diodes, circuits with different types of diodes are analyzed. Transistors are the base of amplifying circuits, and in this course diverse configurations of amplifiers based on bipolar transistors and field effect transistors will be analyzed and designed. The general topics of the course are: semiconductors, diodes, bipolar transistors, and field effect transistors.

PRE-REQUISITE:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

SIXTH SEMESTER

CE409 MICROPROCESSOR DESIGN

The growing sophistication of electronic devices to provide a greater functionality and usability to the user, has made that the incorporation of electronic circuits, especially microprocessors, be almost universal. An important characteristic for the Cybernetic Electronics Engineer at CETYS, is the design of computer systems, and that is why this program has a series of courses that have the purpose of preparing and training the future professional in this field. The Microprocessor Design course is one of the fundamental courses that allow the Cybernetic Electronics Engineer achieve this. During the course, diverse microprocessors of 16 and 32 bits from different manufacturers will be analyzed, along with the support component families necessary for their functioning, the design of systems based on a microprocessor, together with a memory system, and an interphase system. The course has lab work, a strong emphasis is made in proving the theoretical fundamentals that will be studied throughout the course, by doing practical work at the lab. The general topics of the course are: assembly language, microprocessors, memory system, input-output system, and applications.

PRE-REQUISITE:

CE409 ANALOGUE ELECTRONICS II

An important skill for Cybernetic Electronics Engineers at CETYS is the design of analogue circuits, that is why there is a series of courses in this program that intend to prepare and train the future professional in this field. The course Analogue Electronics I, is one of the basic courses that allow the Cybernetic Electronics Engineer achieve this. The course has lab work, a strong emphasis is made in proving the theoretical fundamentals that will be studied throughout the course, by doing practical work at the lab. During the course analogue circuits will be studied, made with transistors, but in an integrated form, better known as linear integrated circuits, as well as its electrical characteristics. Initially, class A, B, C potential amplifying circuits will be analyzed, then the characteristics and configurations of operational amplifiers like signal processing universal analogue circuits, continuing with the study and analysis of various linear integrated circuits used for filtering, for generating signals and regulating feeding sources.

The general topics of the course are: potential amplifiers, operational amplifiers, filters, signal generators, linear and commutation volt regulators.

PRE-REQUISITE:

CE411 CONTROL SYSTEMS

It is important that Cybernetic Electronics Engineering students have theoretical and practical knowledge related to Control Systems. During the course, students will be exposed to the study and theory of linear control, use of controllers in continuous and discrete processes, which include feedback control, sequential or discrete control, instrumentation fundamentals, programmable controllers, and computer process controls. The general purpose of the course is that students have the opportunity, through theoretical and practical presentations to know the different types of control commonly used, and to acquire the capacity to identify, analyze, design, and keep different process control systems. The general topics of the course are: feedback control systems, discrete process control, instrument fundamentals, and programmable controls.

PRE-REQUISITE:

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

SEVENTH SEMESTER**CE412 INTERPHASE DESIGN**

It is important that Cybernetic Electronics Engineering students have theoretical knowledge and the skills to design interphases on any computing system. In this course, students will be exposed to established interphase standards, but also the necessary knowledge so students can develop their own interphase. Aspects of sensors and interphases in computers' ports will be analyzed. The diverse standards of interphases will be analyzed in a theoretical and practical way, that are commonly used in computers. Emphasis will be made on the design of proprietary interfaces, as well as the development of necessary software so they can be used. The course has lab work, a strong emphasis is made in proving the theoretical fundamentals that will be studied throughout the course, by doing practical work at the lab. The general topics of the course are: interface standards, programmed and demanded input-output, and instrument fundamentals.

PRE-REQUISITE:

CE401 COMPUTER NETWORKS

In this course, students will be exposed to the knowledge and main fundamentals, in a theoretical-practical way, in the field of computer networking. This course will begin from the study of the 7 layers of the OSI model and the TCP/IP model, focusing mainly in link layers, networks, and transportation. Also, the most important aspects forming local area networks LAN will be studied, as well as communication means and devices that work in these networks. The topic of metropolitan networks MAN will also be studied, and wide area networks WAN, analyzing the main equipment and routing protocols that make it possible for data packages to travel among these networks and reach their destination. Another important aspect in the course will be the study of wireless networks and also new technologies that are currently being used in computer networking, which allow us to use applications in real time for voice, telephones, videoconferencing, and other multimedia applications. During the course, one or more visits to different computing centers in local companies will be made, to analyze and know the different solutions and characteristics that form these information networks, as well as to have a more complete and updated vision of what happens in this area.

PRE-REQUISITE: CC404 Data Structure; CC406 Operating Systems

CE414 POWER ELECTRONICS

This course provides the theoretical and practical fundamentals related to power semiconductor devices with a focus on its functioning and application of converting circuits such as: rectifiers, invertors, regulators, and choppers and engine control circuits of direct and alternate current. The general purpose of this course is that students have the opportunity, through theoretical and practical presentation, to know the different types of power semiconductor devices, focused on its functioning and application. The general topics of the course are: power semiconductors, alternate current converters and cycloconverters, regulators, invertors, sources, AC and DC engine controllers.

PRE-REQUISITE:

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

ELECTIVE I

PRE-REQUISITE:

EIGHT SEMESTER**CC412 DISTRIBUTED PROGRAMMING TOPICS**

As part of students' professional training, this course is designed to integrate what was learned throughout this program, proving that the potential of programming grows when it is part of a system that additionally involves hardware of special or dedicated functions. The course is directed towards the integration and control of industrial processes, using the adequate hardware and software tools as well as techniques and tools for processing digital signals. The general purpose of the course is to show the use of programming for control applications in industrial processes, knowing the components of these systems with recent technologies. Throughout the course, students must acquire skills to identify and analyze the programming used in systems containing parts of the content itself. The topics to discuss are: connectivity between industrial applications, direct computer control, supervisor control systems, data acquisition (SCADA), and vision machines. The course has a practical focus towards the development of projects, concluding in a final capstone project.

PRE-REQUISITE:

CE402 COMPUTER NETWORK APPLICATIONS

This course is designed so students can put into practice the knowledge acquired in the Computing Network area, which takes into account HARDWARE aspects, as well as SOFTWARE aspects. Throughout the course, students will design and assemble all the necessary infrastructure for the good functioning of a TCP/IP network, in a practical way, considering several means of communication and the necessary equipment to configure a local area network LAN. One of the main points of this course, is that students will be able to instal, in a practical way, and configure two of the main types of servers currently used (Windows server and Linux), with the main network services they offer. One of the unit of the course considers aspects, in a basic from, on the safety of computer networks, by working in a computer network environment.

PRE-REQUISITE:

CE415 MECHATRONICS

It is important that Cybernetic Electronics Engineering students have theoretical and practical knowledge regarding mechatronic systems. This course provides the theoretical and practical fundamentals related to devices and mechatronic systems with a focus on its functioning and application, providing fundamentals regarding mechanisms, and integrating the theoretical and practical knowledge acquired throughout the program in electronics and computing. The general purpose of this course is that students have the opportunity, through theoretical and practical presentations, of knowing the different types of mechatronic systems, as well as industrial robotics with a focus on their functioning and application. The general topics of the course are: introduction to industrial automation, mechanisms, kinematics and dynamics of manipulators, and capstone project.

PRE-REQUISITE:**HU402 Mankind and Ethics**

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:**ELECTIVE II****PRE-REQUISITE:**

IND INDUSTRIAL ENGINEERING

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
MA400	MATHEMATICS	4	0	8	MA405	STATISTICS INFERENCE	4	0	8
CC400	PROGRAMMING METHODS I	4	0	8	MA406	MULTIVARIATE CALCULUS	4	0	8
CE403	INTRODUCTION TO INDUSTRIAL ENGINEERING	4	0	8	II403	INDUSTRIAL ELECTRONICS	4	0	8
CS401	THINKING SKILLS	4	0	8	II404	ENGINEERING METHODS	4	0	8
EC400	GLOBALIZATION AND ECONOMICAL DEVELOPMENT	4	0	8	ID400	ADVANCED COMMUNICATION IN ENGLISH	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
MC400	COMPUTER SKETCHING	4	0	8	II405	PRODUCTION SYSTEMS ENGINEERING I	4	0	8
MA401	DIFFERENTIAL CALCULUS	4	0	8	II406	QUALITY ENGINEERING I	4	0	8
CC402	PROGRAMMING METHODS I	4	0	8	II407	OPERATION RESEARCH METHODS I	4	0	8
FI400	PHYSICS I	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
MF400	PROPERTIES OF MATERIALS	4	0	8	HU400	MAN AND ENVIRONMENT	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
MA402	INTEGRAL CALCULUS	4	0	8	II408	PRODUCTION SYSTEMS ENGINEERING II	4	0	8
FI401	PHYSICS II	4	0	8	II409	EXPERIMENT DESIGN	4	0	8
MA403	NUMERICAL METHODS	4	0	8	II410	OPERATION RESEARCH MODELS II	4	0	8
MF401	MATERIAL MANUFACTURING	4	0	8	HU401	MAN , HISTORY AND SOCIETY	4	0	8
CS400	ADVANCED COMMUNICATION IN SPANISH	4	0	8		ELECTIVE I	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
MA404	PROBABILITY	4	0	8	II411	PRODUCTION SYSTEMS ENGINEERING III	4	0	8
MA407	DIFFERENTIAL EQUATIONS	4	0	8	II412	ECONOMICS ENGINEERING	4	0	8
FI402	PHYSICS III	6	0	8	II413	SYSTEMS SIMULATION	4	0	8
II401	INDUSTRIAL CHEMISTRY	6	0	8	HU402	MAN AND ETHICS	4	0	8
II402	INDUSTRIAL ADMINISTRATION	4	0	8		ELECTIVE II	4	0	8
		24	0	40			20	0	40

FIRST SEMESTER

MA400 MATHEMATICS

This course is offered to all students that study a Business Administration or Engineering major, in order to provide them basic mathematics that allow them to take the following math courses from their training area. The course addresses the concepts of logical mathematics in a practical way.

PRE-REQUISITE:

CC400 PROGRAMMING METHODS I

This courses expects engineering students to understand and apply the basic concepts of structured programming, oriented to objects, to design algorithms and create computer programs, encouraging students to solve numerical problems, and manage characters. The course will emphasize the creation of flux diagrams, algorithms and the use of a programming language to solve practical problems. The course is designed to take students along a smooth path towards learning the Programming Methodology, following strategies for problem solution. In order to achieve this, there is a series of topics that go from simple problems to problems of medium complexity.

PRE-REQUISITE:

II400 INTRODUCTION INDUSTRIAL ENGINEERING

This course is designed to introduce first semester students to university life, and discover the surroundings regarding engineering as a career, the knowledge of the major that students have chosen as a professional career, and the acquisition of basic knowledge of some of the areas that comprise such major. Likewise, during the course, students will be provided with the introduction, necessary for the different areas by which CETYS University performs, so students make this new university theirs, and use the facilities properly and the services it offers. The knowledge and skills developed during this course will be very useful for students to better understand the program of themajor they chose, the courses it comprises, the relation between them and the the professional and personal profile that is expected from them when graduating.

PRE-REQUISITE:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers. .

PRE-REQUISIT:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:

SECOND SEMESTER

MC400 COMPUTER DESIGN

This course's objective is for students to acquire basic knowledge that is based on engineering design, and through the use of computer aided-design (CAD) software, students can apply such knowledge in the elaboration and interpretation of prints that describe the size and shape of products, and industrial parts. The course belongs to the engineering training area, and is essential to all those majors that have to do with design and manufacturing of parts and products. Its nature is totally practical, additionally, the course is carried on in a shop, where students will learn, at least, one CAD software. The knowledge and skills developed during this course will be very useful for students to better understand and successfully perform in courses related to the design of parts and manufacturing products, and in general, any course within their program involving the elaboration and interpretation of manufacturing prints.

PRE-REQUISITE:

MA401 DIFFERENTIAL CALCULUS

This course is a theoretical one, it will allow students the correct formulation, solution, and discussion of problems that involve derivatives of functions of one variable. Students must apply calculus of derivatives in the evaluation of optimum values of algebra and transcendent functions.

PRE-REQUISITE: MA400 Mathematics

CC402 PROGRAMMING METHODS II

This course is a continuation of Programming Methods I, and is oriented to completing a basic body of existing elements in Java programming language, that allows the solution of problems with a focus on objects. The course comprises the study of programming fundamentals oriented to objects, so students can solve problems creating their own classes that imply the use of arrangements, files and data structure, all this in an environment of graphic programming. Programming Methods II, is a relevant course within the engineering program, since in addition to computer programming, it is a fundamental knowledge of any engineer, it promotes analitical and creative skills in students. Furthermore, the course will be used as a base and/or tool for other courses that students will course in their program.

PRE-REQUISITE: CC400 Programming Methods I

FI400 PHYSICS I

It is a theoretical-practical course, based on the statistics of particles and rigid solids. Practices made constitute the initial immersion of engineering students in Metrology, as well as the implementation of simple devices and the correct report of an experiment's report. Basically, students question nature on the condition of static equilibrium and design devices to obtain such quantitative information on it. Equipment, devices, and techniques will be learned to use and apply. A pre-requisite of this course is Math, and the pre-conceptions of Physics acquired in High School.

PRE-REQUISITE:

MF400 PROPERTIES OF MATERIALS

In a basic way, this course intends to address two great areas in which the study of materials is divided: Science and Materials Engineering. Its objective is that students know and understand the scientific theories on which properties are based to apply this knowledge into the adequate selection of material given a specific application. Evidently, through this course, a materials specialist cannot be formed, however, the scientific bases on which observable properties are based on, therefore, understand the behavior of most materials and visualize their potential applications. The course belongs to the professional training area and it is a basic one within the group of courses that comprise the materials area. It is essential for those programs that have to do with problems involving the selection of materials. Its nature is theoretical and practical, since it comprises from scientific theories that relate the different levels of internal structure of materials, with observable properties in them; they encourage students to visualize the potential applications of materials basing on their properties. The knowledge and skills developed during this course will be very useful for students, to better understand and successfully perform in related courses, such as: materials manufacturing, materials mechanics, introduction to design, physical metallurgics, and in general any course within their program that involves materials in any way.

PRE-REQUISITE:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

MA402 INTEGRAL CALCULUS

This is a theoretical-practical course preceded by Math and Differential Calculus. Here students will learn and apply the concepts of antiderivative and definite integral, and they will identify the main applications related to the engineering sciences. It includes techniques for the integration of algebra and transcendental functions, as well as their applications to calculating areas and volume. This course is very linked to math, differential calculus, physics I, II, and III, multivariable calculus, differential equations, probability, statistic inference, operation research models II, and systems simulation, among others. Therefore, this is a fundamental course in students' program.

PRE-REQUISITE: MA400 Math; MA401 Differential Calculus

FI401 PHYSICS II

Throughout the course, the kinematics and dynamic effect is studied, resulting in two- and three-dimension systems of force acting on a particle. The general topics of the course are: kinematics of particles, energy conservation, work and amount in motion. At the end of the course, students will acquire skills, attitudes, abilities, and essential knowledge for the design and manufacturing motion systems that are useful for the practice of engineering.

PRE-REQUISITE: FI400 PHYSICS I

MA403 NUMERICAL METHODS

This course is included in Mechanical, Manufacturing, Industrial, Cybernetic Electronics, and Computer Science Engineering. Its objective is the establishment of a platform of theoretical and application knowledge for the solution of problems presented in the engineering area in any of its fields; such problems can be presented in electronic applications, models, and system simulation, finite models, heat transference, chemistry, marketing, and economics, among others. During the course, the following topics will be studied: solution of root equations, roots of polynomials, linear equation systems, curve fitting for linear regression and linear interpolation, and minimum squares, as well as diverse methods for the process of numerical integration. The solution to these problems will be based on non-traditional methods and oriented to the use of computers as a tool of great use.

PRE-REQUISITE: MA400 Math, CC400 Programming Methods I; CC402 Programming Methods II

MF401 MATERIALS MANUFACTURING

This course's basic objective is the study and comprehension of one of the fundamental stages in a life cycle of a product: the transformation processes of raw matters in useful products. The most common industrial materials are studied, their obtaining, processes and properties until becoming finished products. With the acquired knowledge, students will understand a great variety of processes through which the greater part of products with which we interact in our daily lives are obtained. In order to study this course, it is very important to have previous knowledge of science and materials engineering, additionally, it is of great help any knowledge and experience regarding the transformation processes. The knowledge and skills developed in this course will be very useful for students to better understand and successfully perform in courses related to the design of manufacturing products, such as computer manufacturing, manufacturability, product design, and in general, any course within their program involving in any way materials and their transformation to useful products.

PRE-REQUISITE:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of

literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER

MA404 PROBABILITY

This course reviews the basic axioms and the fundamental models of probability for the analysis of a random behavior of variables in engineering systems. The concept of math expectation and its applications in decision-making is included.

PRE-REQUISITE:

MA407 DIFFERENTIAL EQUATIONS

In this course, engineering students are exposed to reasons of change and differential equations, identifying and applying their analytical solution methods to model the dynamic behavior of natural and artificial systems related to the field of engineering. Specifically, the course includes the study of different solution methods for differential equations of first order, solution methods for linear differential equations of higher order with constant coefficient and the use of Laplace for its solution.

PRE-REQUISITE:

FI402 PHYSICS III

This is a theoretical-practical course; students will receive the knowledge, skills, abilities, and attitudes required as the fundamentals of electromagnetism. During the course, students solve problems, develop lab practices, implement simple devices, and develop projects. This course is associated to Physics I, and II, which are pre-requisites. It is also related to specialized courses that involve presence at the lab to make measurements with a multimeter and an oscilloscope. A solid training is needed in Differential and Integral Calculus, and abstraction skills towards vectorial analysis.

PRE-REQUISITE: FI401 Physics II

II401 INDUSTRIAL CHEMISTRY

It is about placing students in the field of chemistry, and realize there are basis to understand the chemical phenomena, the natural ones, as well as those induced by men for their benefit, as it can be seen in metamechanical industries, electronic assembly, automotive, medical products, among other industries. The course is placed within the training area in Industrial Engineering, however, many of the fundamentals must be rescued from courses studied in high school, and particularly, the use of material properties, delivered at a college level, that will facilitate the understanding of the behavior of materials, such as metals and plastics. The course will address basic math applied to chemistry, that will allow chemical processes from a quantitative point of view. Substances, in their different states of physical aggregation and their chemical behaviors before different physical-chemical conditions will be studied. The equilibrium and kinetics aspects in chemical reactions are contemplated. Finally, students will get to know the performance on chemistry in industries that are currently present in the region, like the management of dangerous substances, plastics, electrochemical processes, and last, but not least, pollution problems in our environment are also considered. In order to get students to develop skills and get acquainted with chemistry management techniques, lab practicum will be carried on, based on theoretical topics discussed in class; in addition, as part of students' training, research work will be scheduled on properties, applications, and processes of the most representative chemical products.

PRE-REQUISITE:

II402 INDUSTRIAL ADMINISTRATION

In this course, students will learn the different concepts and models of strategic management used to achieve competitiveness in industrial organizations. The course addresses the fundamental concepts, external and internal analysis of the environment to later analyze the corresponding strategies. The course also covers different aspects related to the implementation of strategies, especially those related to the implications of organizational structures and internal control. Students will learn the fundamental concepts in the strategic management field, through groups of readings, revision and exposition of concepts by students, as well as through the solution of study cases in group work, using an effective process of case analysis.

PRE-REQUISITE:

FIFTH SEMESTER

MA405 STATISTICS INFERENCE

In this course, students will be exposed to the fundamental concepts of classical statistics, seen as analysis and synthesis tools of information to facilitate decision-making in planning, design, operation and systems control of their interest. During the course, students will develop skills to identify opportunities to apply these concepts, by making and solving the corresponding inference problems. In order to show mastery of the course, they will develop a capstone project, that consists of making and solving statistic inference problems of their interest. This course recovers from Probability, the basic axioms of probability and concepts of random variables, distribution of probability, math expectations and variance, while the math courses deal with concepts of fusion and differential and integral calculus of one or two independent variables. From this point in the program, the course will be closely linked to experiment design, operations research models II, system simulation, software development process, artificial intelligence I, and the production systems engineering courses.

PRE-REQUISITE:

MA406 MULTIVARIANT CALCULATION

In this course, students will develop knowledge, skills, and abilities required to solve problems that involve more than one independent variable, derivatives, and integrals. Likewise, they will manage and pose problems involving parametric and polar equations in their description. It is related to Differential and Integral Calculus which are pre-requisites, as well as Programming I and II, which allow solving problems with assistance of the computer.

PRE-REQUISITE:

II403 INDUSTRIAL ELECTRONICS

This course expects Industrial Engineering students to know and understand the functioning of different electronic devices, analogue and digital, in order to make a theoretical-practical study of its application in industry. The general topics of the course are: electric circuits, semiconductor devices, operational amplifiers, digital systems, and programmable controller fundamentals.

PRE-REQUISITE:

II404 METHODS ENGINEERING

In this course, students will be exposed to the fundamental concepts and techniques of Methods Engineering used to increase productivity in organizations. The course addresses different register and analysis techniques to improve or design working processes in manufacturing and service companies. The course also comprises different tools to determine the size of time that processes and working methods take. During the course, students will develop skills that allow them to analyze and document manufacturing and service processes, through the most adequate register and analysis techniques, that take them to identify opportunity areas and make improvement proposals of these processes. In order to prove mastery of the course, they will make a capstone project that consists of identifying, analyzing, and improving a methods engineering process.

PRE-REQUISITE: MA404 Probability ; MA405 Statistic Inference

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

SIXTH SEMESTER

II405 PRODUCTION SYSTEMS ENGINEERING I

In this course, students will know the activities made in the production systems area, in organizations that face global markets, where the clients and providers are companies located in any part of the world. Special emphasis is made on the dynamism of markets and the sudden changes in the taste of potential clients, and in the actions that must be developed to respond, in time, to the demands of international competition. In this course, methodologies for product design and services will be analyzed, localization and design of facilities, selection of process technology, and design of physical distribution processes that form the operation strategy in this important area of Modern Administration.

PRE-REQUISITE:

II406 Quality Engineering I

In this course, students are exposed to the fundamental principles and concepts of Quality Engineering, mainly, statistic models that are used to improve the quality of products and processes. During the course, students will develop skills to apply statistic models of quality engineering to problems and situations in manufacturing and service organizations, to control and improve the quality of their products and processes. In order to show mastery of the course, students will make a capstone project, consisting in the formulation and solution of a problem to improve the quality of a product or process, using methodology common to quality standards developed in the course: Six Sigma, for example. This course recalls the course of Probability, the concepts of random variable, and probability distributions, while the inference statistics course, considers mainly the concepts of interval estimation and hypothesis. Likewise, the application of different experimental designs from the course experiment design are recalled, in order to combine them with quality engineering methodologies in problem solution.

PRE-REQUISITE: MA400 Mathematics; MA401 Differential Calculus; MA402 Integral Calculus; MA404 Probability; MA405 Statistics Inference; CC400 Programming Methods I, and CC402 Programming Methods II.

II407 OPERATION RESEARCH MODELS I

In this course, students from the Industrial Engineering program are exposed to techniques and deterministic models of Operation Research (IO), also called Scientific Administration, and its work methodology and focus to optimize the functioning of the human activity systems. These systems integrate people, raw matter, machines, facilities, financial resources, and energy to produce goods and/or services in an optimal and competitive way. They seldom take the shape of manufacturing organizations (plant operations) and/or services (finances, entertainment, telecommunications, health, education, government, military/security, commerce, transportation, and consulting). The IO is a basic tool for Industrial Engineers, the course expects students to acquire an activity of search for what is optimal, once they have identified the satisfactory performance of a system of human activity, they can describe such performance in a quantitative way through one or more yield measures. Under this focus of improving only what is measurable, students will be exposed to the fundamentals, but especially the application of Linear Programming, the Revised Simplex Method and its variables, the Theory of Duality, Essential Problems of Linear Programming (Assignment, Transportation, and Transhipped) and the new deterministic optimization new techniques (genetic algorithms, evolution strategies, Taboo search, etc.). This course emphasizes the fundamentals and applications of Math Programming. Throughout the course, students will exercise their communication skills to present information and alternatives of deterministic problem solution of operations research with a focus on optimization. It is also sought that students develop a skill to work in interdisciplinary groups, and that they learn to use the operations research method with support of software dedicated to this area to solve structured optimization problems. In order to prove the mastery of techniques and IO models, students will make a capstone project on a real system, and they will document the results in a written report, out of which an executive presentation will be made at the end of the course. This project will be made in groups. In order to achieve an adequate performance in this course, students must possess previous knowledge on fundamentals of differential calculus and linear algebra. Students are specifically required to know how to solve maximum and

minimal problems of an independent variable, graph inequations and inequation systems, as well as solving linear equation systems using the Gauss-Jordan method.

PRE-REQUISITE: MA404 Probability

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

SEVENTH SEMESTER

II408 PRODUCTION SYSTEMS ENGINEERING II

This course is designed for Industrial Engineering students, so they know the activities carried on in the areas of planning, demand, materials control, and production control, in organizations that face global markets, where the clients and providers are companies located in any part of the world; in order to satisfy them, a balance of inventories is fundamental, therefore, emphasized in this course. Special emphasis is made on the dynamism of markets and the sudden changes in the taste of potential clients, and the actions that must be developed to respond, in time, to the demands of international competition. The course develops, under a methodology strongly oriented to activities carried on in plants, that will demand from students skills to relate themselves with the production sector efficiently. This course is an indispensable requisite to study any course of the specialized area chosen by students.

PRE-REQUISITE: II407 Operation Research Models I

II409 EXPERIMENT DESIGN

In this course, the principles of statistic experimental design are revised, its analysis, as tools for decision-making in the design and improvement of processes, through the detection of relations between the variables involved in them. The course is placed in the seventh semester of this program, and is related to the Probability course in 4th semester, Statistics Inference from 5th semester, and Quality Engineering I from sixth semester. Because of its essence regarding experimentation, it is also related to Simulation in the 8th semester. It is a theoretical-practical course that requires an active participation from students in solving exercises and in the application of the techniques studied in class to real problems or situations.

PRE-REQUISITE: MA404 Probability CC404

II410 OPERATION RESEARCH MODELS II

This is a theoretical-practical course, it requires students to have knowledge in Probability, specially the topics of conditioned probability, exponential distribution, Poisson distribution, and expected values. Another pre-requisite course is Statistics Inference, especially the topics of parameter estimation, hypothesis, and the goodness of fit test. For Markovian Chains the Math course is required, mainly in the topic of operations with matrix. Also the concept of optimization and management of linear programming, like WinQSB software or higher in characteristics and quality in results. This course is of vital importance for the development of a daily practice of Industrial Engineering, for it is *wrongly related to the analysis of processes and correct decision-making*.

PRE-REQUISITE: II407 Operation Research Models I

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

ELECTIVE I

PRE-REQUISITE:

EIGHTH SEMESTER

II411 PRODUCTION SYSTEMS ENGINEERING III

Throughout this course, the processes, concepts and methods for the correct management and control of valid manufacturing operations in industries will be studied, as well as providing goods and services. The focus goes from manufacturing oriented to high technology, to high quality services. The course is oriented to the analysis of cases and real situations taken from the regional production sector.

PRE-REQUISITE: II407 Operations Research Models I

II412**ENGINEERING ECONOMICS**

This course is oriented to a quantitative analysis of investment alternatives presented in organizations, either manufacturing or services, in a way that such analysis guarantees the selection of the most profitable alternatives that maximize the benefit of the investment. During the course, students will develop skills to apply the engineering models for the evaluation of projects and investment alternatives that must be made to solve problems and situations in manufacturing and service organizations, in order to optimize decision-making in these cases. In order to show a mastery on the subject, students will make a capstone project that consists of the formulation, and technical and economical factibility test of an investment project that solves a manifested need.

PRE-REQUISITE:MA401 Differential Calculus; MA402 Integral Calculus

II413**Systems Simulation**

In this course, students will apply the simulation tool, based on its design and methodology analysis, in order to study existing or proposed systems to know and improve their behavior. During its development, models based on discrete simulation will be created, supported by specialized software. The course is developed using theoretical development and case analysis of different topics that allow students to pose, solve, discuss, and revise previous conditions of operations of real situations before setting off the proposed operations.

HU402 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

ELECTIVE II

PRE-REQUISITE:

IDGD DIGITAL GRAPHIC DESIGN ENGINEERING

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
DG400	INTRODUCTION TO DIGITAL GRAPHIC DESIGN ENGINEERING	4	0	8	DG435	GLOBAL IMAGE MANUAL	4	0	8
CC400	PROGRAMMING METHODS I	4	0	8	DG436	DIGITAL PHOTOGRAPHY	4	0	8
MA400	MATHEMATICS	4	0	8	CC404	DATA STRUCTURE	4	0	8
MC400	COMPUTER DRAWING	4	0	8	MA413	STATISTICS AND PROBABILITY	4	0	8
CS401	THINKING SKILLS	4	0	8	EC400	GLOBALIZATION AND ECONOMIC DEVELOPMENT	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
CC402	PROGRAMMING METHODS II	4	0	8	SI403	DATA BASES	4	0	8
MA411	SELECT MATHEMATICAL TOPICS I	4	0	8	DG437	ELECTRONIC MEDIA DESIGN	4	0	8
DG431	CONTEMPORARY STYLES	4	0	8	MK400	MARKETING MANAGEMENT	4	0	8
DG432	NATURAL DRAWING	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
CS400	ADVANCED COMMUNICATION IN SPANISH	4	0	8	HU400	MAN AND ENVIRONMENT	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
MA412	SELECT MATHEMATICAL TOPICS I	4	0	8	DG418	VIDEO PRODUCTION	4	0	8
CC416	MULTIMEDIA PROGRAMMING	4	0	8	DG438	DIGITAL MODELING	4	0	8
DG433	VISUAL COMPOSITION	4	0	8	CC406	OPERATING SYSTEMS	4	0	8
DG442	TWO-DIMENSIONAL ILLUSTRATION AND ANIMATION	4	0	8	DG419	MULTIMEDIA	4	0	8
ID400	ADVANCED COMMUNICATION IN ENGLISH	4	0	8	HU401	MAN, HISTORY, AND SOCIETY	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
DG441	METHODOLOGY OF DESIGN	4	0	8	DG420	3D ANIMATION	4	0	8
FI403	CONCEPTUAL PHYSICS	4	0	8		NETWORK AND INFORMATION TRANSFER	4	0	8
CC421	COMPUTER GRAPHICS	4	0	8	DG439	E-BUSINESS	4	0	8
DG434	GENERAL TYPOGRAPHY	4	0	8	DG440	STRATEGIC BUSINESS DEVELOPMENT	4	0	8
CC403	COMPUTER SYSTEMS COMPONENTS	4	0	8	HU402	MAN AND ETHICS	4	0	8
		20	0	40			20	0	40

FIRST SEMESTER

DG400 INTRODUCTION TO DIGITAL GRAPHIC DESIGN ENGINEERING

The Computer Design course expects students to acquire basic knowledge that is based on engineering design, and, through the use of CAD software, they apply this knowledge in the elaboration and interpretation of prints describing the size and shape of products and industrial parts. The course belongs to the engineering training area and is essential to all those programs that have to do with the design and manufacturing of products and parts. Its nature is totally practical, and in addition, the course has a shop where students can learn at least one computer design software. The knowledge and skills developed during this course will be very useful for students to better understand and successfully perform in courses related to the design of parts and manufacturing products, and in general, any course within their program involving in any way the elaboration and interpretation of manufacturing prints.

PRE-REQUISITE:

CC400 PROGRAMMING METHODS I

This course expects engineering students to understand and apply the basic concepts of structured programming, oriented to objects, to design algorithms and create computer programs, encouraging students to solve numerical problems, and manage characters. The course will emphasize the creation of flow diagrams, algorithms and the use of a programming language to solve practical problems. The course is designed to take students along a smooth path towards learning the Programming Methodology, following strategies for problem solution. In order to achieve this, there is a series of topics that go from simple problems to problems of medium complexity.

PRE-REQUISITE:

MA400 MATHEMATICS

This course is offered to all students that study a Business Administration or Engineering major, in order to provide them basic mathematics that allow them to take the following math courses from their training area. The course addresses the concepts of logical mathematics in a practical way.

PRE-REQUISITE:

MC400 COMPUTER DESIGN

This course's objective is for students to acquire basic knowledge that is based on engineering design, and through the use of computer aided-design (CAD) software, students can apply such knowledge in the elaboration and interpretation of prints that describe the size and shape of products, and industrial parts. The course belongs to the engineering training area, and is essential to all those majors that have to do with design and manufacturing of parts and products. Its nature is totally practical, additionally, the course is carried on in a shop, where students will learn, at least, one CAD software. The knowledge and skills developed during this course will be very useful for students to better understand and successfully perform in courses related to the design of parts and manufacturing products, and in general, any course within their program involving the elaboration and interpretation of manufacturing prints.

PRE-REQUISITE:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

SECOND SEMESTER

CC402 PROGRAMMING METHODS II

This course is a continuation of Programming Methods I, and is oriented to completing a basic body of existing elements in Java programming language, that allows the solution of problems with a focus on objects. The course comprises the study of programming fundamentals oriented to objects, so students can solve problems creating their own classes that imply the use of arrangements, files and data structure, all this in an environment of graphic programming. Programming Methods II, is a relevant course within the engineering program, since in addition to computer programming, it is a fundamental knowledge of any engineer, it promotes analytical and creative skills in students. Furthermore, the course will be used as a base and/or tool for other courses that students will course in their program.

PRE-REQUISITE: CC400 Programming Methods I

MA411 SELECT MATH TOPICS I

In this course, students acquire skills, abilities, and the necessary knowledge for a Digital Graphic Design Engineer to allow them to formulate correctly algorithms and operations in graphical notation or worded notation. This course also studies the calculation of area and volume using Integral Calculus, compared to other more simple quantification methods.

PRE-REQUISITE:

DG431 CONTEMPORARY STYLES

This is a theoretical course placed in the second semester, which intends to analyze the different theoretical-artistic postures of modern and contemporary art, as well as the way they contribute to the development of a graphic design discipline.

PRE-REQUISITE:

DG432 NATURAL DESIGN

A course formed by a structure of theoretical-practical knowledge. Students will classify and illustrate the different elements of natural design, achieving the development of skills and abilities through the identification of the most relevant techniques for the expression and interpretation of visual contexts, applying solid arguments in the projection of specific concepts.

PRE-REQUISITE:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER**MA412 SELECT MATH TOPICS II**

This course introduces Digital Graphic Design Engineering students to the group of knowledge, skills, and abilities required in order to optimize the functions of a variable and calculate area and volume of simple geometry by using basic notions of Integral and Differential Calculus. Likewise, students will structure and present ideas that require posing a worded formulation, or a graphs type. The course demands from students previous algebra knowledge, groups theory, and counting techniques. Within the Math training area this is a specialized course and it goes by the hand of Conceptual Physics.

PRE-REQUISITE:

CC416 MULTIMEDIA PROGRAMMING

This is a practical course that will train students to develop animation applications where they will apply their knowledge in science, math, physics, and programming. This course is placed in the engineering training area and has pre-requisite courses like Programming Methods I and II. Students will use the language ActionScript (Macromedia), a variety of Java, for the elaboration of examples.

RE-REQUISITE:

DG433 VISUAL COMPOSITION

The course projects students' bases on the definition of a fundamental structure in the social theory of design. It is delivered in the third semester of Digital Graphic Design Engineering and will be a solid platform during their professional training. The course has a theoretical-practical nature and is directly related to all the courses from the design training area. Students develop skills like creativity, perception of forms, in addition to an acute criterion in the basic elements and fundamentals of design.

PRE-REQUISITE:

DG442 2D ILLUSTRATION AND ANIMATION

This is a theoretical-practical course that will allow students to know, identify, and develop styles and techniques for two-dimension illustration and animation, in applicable projects of their specialized area. It has a high impact on the rest of the program, since the demand and experiences acquired throughout the course, as well as the management of 2D, will allow students to broaden their knowledge area, so they can apply this to other aspects of their profession.

PRE-REQUISITE:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

CS404 Culture II***Music Appreciation***

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER

DG441 METHODOLOGY DESIGN

A curricular course in the fourth semester of DGDE; it is a theoretical-practical course that has the purpose of developing creative and analytical skills in students, generating an intuitive process of fine design. Students will work on an activity program to develop the design process on the basis of choosing strategies and methods to solve visual communication problems.

PRE-REQUISITE:

FI403 CONCEPTUAL PHYSICS

In this course, students develop a total of three projects of Applied Physics in the areas of mechanical, optics, and acoustics, that allow them to implement whole solutions to problems regarding their area. Students can freely select between focusing their project on the following areas: ambience, simulation or virtual prototype manufacturing. Skills in Java programming and management of algebra and arithmetics are required. The course relates to Math Topics, where students have developed skills to make projects in a clear and acceptable way, as well as in Programming, where they have acquired the sufficient digital skills to solve problems with the computer, and the correct posing of algorithms. In this course, students are encouraged to research in trustworthy sources the basic principles and concepts managed throughout the course, and a sense of internationalization is strengthened through the analysis of the work developed in other places of the world.

PRE-REQUISITE:

CC421 COMPUTER GRAPHS

Students will learn to manage linear algebra tools to create 2 and 3 dimension graphs in the computer. By understanding the bases of graphs programming, students will understand and master design software that creates and manipulates graphs. At the end of the course, students will be trained to carry on the design and construction of graphic computer systems in window programming with a language oriented to objects, through the development of theoretical-practical activities posed by the instructor.

PRE-REQUISITE:

DG434 GENERAL TYPOGRAPHY

It is a theoretical-practical course that describes two relevant typographic factors and their relation to editorial design. It is delivered in the fourth semester of DGDE and it is a fundamental course that complements the editorial focus through a typographic vision, from Gutenberg, the typographic families, to modern sources. Students are presented with technical basic, functional and esthetical knowledge of typography. It shows the interdependence of letter design with application techniques, written or printed, it develops a critical capability to analyze and conceptualize the forms according to content and context.

PRE-REQUISITE:

CC403 COMPUTER SYSTEMS AND COMPONENTS

This course expects students to know and understand the diverse hardware elements that compose a computer, as well as its organization and interaction with its different software elements. The general topics of the course are: introduction to computer organization, numerical systems, data representation, digital computers, computer systems and peripherals, installation, and service.

PRE-REQUISITE:

FIFTH SEMESTER

DG435 GLOBAL IMAGE MANUAL

This course is delivered in the fifth semester of DGDE; students already have the sufficient theoretical and practical bases of visual composition, in addition to a good typographic level. It is a course that concretizes the principles of graphic design through applied semiotics and an organized system of identity signs, becoming part of a communication and commercial interrelation strategy. Knowing that an image is a relevant part in all global contexts nowadays, students will know the parameters and diversity of its application in all sectors, analyzing the current demand and proposing a visual innovation in its definition.

PRE-REQUISITE:

DG436 DIGITAL PHOTOGRAPHY

This course promotes photography as an essential tool of digital design, within an image's context, digital photography is nowadays the most sought image in the visual sector, and the most important element in digital industry and its variables. The manipulation of digital images, as well as their effective projection, are a determining factor for Digital Graphic Design Engineers, and their field of action in multimedia or traditional design, to all its commercial applications.

PRE-REQUISITE:

CC404 DATA STRUCTURE

This course addresses aspects related to the development of programs from an efficient point of view. Different forms of data organization are analyzed, as well as related algorithms. Each different form of organization carries a cost in computer resources, in a way that the the form of studying such costs is assessed. Data organizations are defined as types of abstract data, which are implemented in a programming language oriented to objects. This is a classical fundamental course in Computer Science, and required in all programs within this area. The importance that this has in CETYS University's programs, is to be a base for students, indispensable to study latter courses, such as, manufacturing, operation systems, data base, advanced programming, networks, and in general, advanced programming topics. The course is placed in the third semester for Computer Science, Software, Computer Technologies Engineerings, and in fifth semester for Electronic Cybernetics Engineering.

PRE-REQUISITE:

MA413 PROBABILITY AND STATISTICS

Statistics provide indispensable tools for gathering, treating, and analyzing relevant and pertinent information, that any decision-making process requires in order to be effective. With the current support offered by computerized systems, statistics has stopped being a field only for specialists or for high budget companies. Nowadays, businesses and individuals can make successful statistic studies, regardless of the branch of knowledge it is about, it is applied to engineering, administration, and businesses, as well as in social science areas. This course implies having a theoretical, and practical training, where three fundamental areas are included: descriptive statistics and inferencial statistics, both related due to the theory of probability. Statistics is part of a basic knowledge core that all professionals must have, and its content becomes an indispensable support for the rest of the courses that are part of the program, particularly for a student from DGDE; this course allows the understanding of the methodological procedure in market research, from choosing a sample or consultation source, until the processing of gathered information and a conclusion with statistic validity, all directly related to marketing and its application to visual means.

PRE-REQUISITE:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:

SIXTH SEMESTER

SI403 DATA BASES

Students from computing programs will be exposed to the concept of data bases, from a theoretical-practical perspective, since they will put into practice their knowledge on the course through SQL- Structured Query Language and to design as a capstone project a Data Base. The course is divided in four parts. The fundamentals theory on data bases will be studied, with general data, as well as the semantic model Entity/Relation. The second part studies in detail the relational model as a theoretical base for most current data base systems. The third part studies the logical design of a data base using the normalization process. And last, the fourth part studies the SQL standard language for the exploitation and use of relational data bases. This is a fundamental course for students studyin computing programs, since data bases are an indispensable element in all information systems. In order to study this course, students are required to have basic Data Structure knowledge, theory of systems, and information systems; additionally, they are required to know programming in any application development language like C# or Java.

PRE-REQUISITE:

DG437 ELECTRONIC MEANS DESIGN

Students will know and understand the basic elements of current electronic means, as well as programs and systems that allow the publishing in digital means. Students will know how to apply Marketing, its scopes and applications on companies oriented to the market; they will know and develop Marketing to solve problems in the different business sectors.

PRE-REQUISITE:

MK400 Marketing Administration

The Marketing Administration course is a theoretical-practical course where students learn the fascinating world of Marketing. They will learn the definition of Marketing, its reach and its application in companies working in the market. They will learn and develop a Marketing mix to solve problems in the different branches of business.

PRE REQUISIT:

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

SEVENTH SEMESTER**DG418 VIDEO PRODUCTION**

This is a theoretical-practical course; it has pre-requisite courses like Electronic Means Design, as well as common core courses. Students are expected to acquire skills and abilities to create a production using digital resources. A high initiative is also expected, discipline, and willingness to work in teams, as well as strong commitment to work in a coordinated, orderly, systematic, and punctual way, to obtain high quality products in determined periods.

PRE-REQUISITE:

DG438 DIGITAL MODELING

This is a theoretical-practical course; it has pre-requisite courses like Conceptual Physics, Illustration, 2-Dimension Animation, Visual Composition, and is simultaneous to Video Production. Students are expected to acquire abilities and skills to professionally edit a digital product virtually materializing background, shapes, and objects. Students are expected a high level of creativity, discipline and willingness to work in teams, as well as strong commitment to work in a coordinated, orderly, systematic, and punctual way, to obtain high quality products in determined periods.

PRE-REQUISITE:

CC406 OPERATING SYSTEMS

This course is included in Computer Science Engineering and Electronic Cybernetics Engineering to strengthen the skills in the analysis and evaluation of operating systems. The focus is to continue through a conceptual analysis of the components of any operating system: processes, memory, synchronization mechanisms, blocking, input and output devices, and files systems. On the practical side, students will develop programs using Java programming language in a UNIX operating system, or a similar one.

PRE-REQUISITE:

DG428 Multimedia

One of the most innovative disciplines in graphic design is multimedia, due to the confluence of different supports into a same visual communication project. Thus, this course unfolds a series of contents that will help develop complex designs that involve the latest range of digital technology.

Through this course students will acquire graphic design proposals skills towards different applications, from audiovisual presentations, websites enriched with animation and sound, to kiosks and collective programs.

This course fosters the experimentation of creative and design processes that lead to the creation of graphic communication products by using digital tools. The course program is designed to satisfy the technological needs of new trends on design, image and sound. Students need previous knowledge on typographic mastery, color psychology, photography, illustration, as well as the manipulation of images in Photoshop, Freehand or Illustrator.

PRE-REQUISIT:

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

EIGHTH SEMESTER**DG420 3-D ANIMATION**

A theoretical-practical course, it has pre-requisite courses like Conceptual Physics, Illustration, 2D Animation, Visual Composition, Digital Modeling and Multimedia. Students are expected to acquire skills and abilities to digitally manipulate any 3D object, thus generating prototypes compatible to natural objects, from a virtual focus. Students are expected a high level of creativity, discipline and willingness to work in teams, as well as strong commitment to work in a coordinated, orderly, systematic, and punctual way, to obtain high quality products in determined and reasonable periods by working with local platforms like the internet.

PRE-REQUISIT:

CE417 NETWORKS AND DATA TRANSMISSION

In this course, students will be exposed to the knowledge and main fundamentals, in a theoretical-practical way, in the field of computer networking. This course will begin from the study of the 7 layers of the OSI model and the TCP/IP model, focusing mainly in link layers, networks, and transportation. Also, the most important aspects forming local area networks LAN will be studied, as well as communication means and devices that work in these networks. The topic of metropolitan networks MAN will also be studied, and wide area networks WAN, analyzing the main equipment and routing protocols that make it possible for data packages to travel among these networks and reach their destination. Another important aspect in the course will be the study of wireless networks and also new technologies that are currently being used in computer networking, which allow us to use applications in real time for voice, telephones, videoconferencing, and other multimedia applications. During the course, one or more visits to different computing centers in local companies will be made, to analyze and know the different solutions and characteristics that form these information networks, as well as to have a more complete and updated vision of what happens in this area.

DG439 E-COMMERCE

This theoretical-practical course has pre-requisite courses like Research Methodology, Multimedia Programming, Multimedia, Operating systems, and Marketing Administration. Students must be capable of making a feasible business proposal regarding the market and commercial aspects to work in cyberspace. Students are expected a high level of creativity, discipline and willingness to work in teams, as well as strong commitment to work in a coordinated, orderly, systematic, and punctual way, to obtain high quality products in determined and reasonable periods by working with local platforms.

PRE-REQUISIT:**HU402 Mankind and Ethics**

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

IMEC MECHATRONICS ENGINEERING

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
MA400	MATHEMATICS	4	0	8	MC415	INTRODUCTION TO DESIGN	4	0	8
CC400	PROGRAMMING METHODS I	4	0	8	MA406	MULTIVARIATE CALCULUS	4	0	8
CE058	INTRODUCTION TO MECHATRONICS	4	0	8	MC410	MECHANISM DYNAMICS	4	0	8
CS401	THINKING SKILLS	4	0	8	CE059	ELECTRONIC SYSTEMS I	4	0	8
CS400	ADVANCED COMMUNICATION IN SPANISH	4	0	8	EC400	GLOBALIZATION AND ECONOMICAL DEVELOPMENT	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
MC400	COMPUTER SKETCHING	4	0	8	MC407	ELECTRO PNEUMATICS AND HYDRAULICS	4	0	8
MA401	DIFFERENTIAL CALCULUS	4	0	8	CE060	ELECTRONIC SYSTEMS II	4	0	8
CC402	PROGRAMMING METHODS II	4	0	8	CE061	INDUSTRIAL AUTOMATION AND ROBOTICS	4	0	8
FI400	PHYSICS I	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
MF400	PROPERTIES OF MATERIALS	4	0	8	HU400	MAN AND ENVIRONMENT	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
MA402	INTEGRAL CALCULUS	4	0	8	CE414	PROPULSION ELECTRONICS	4	0	8
FI401	PHYSICS II	4	0	8	CE062	PROGRAMMABLE CONTROLLERS	4	0	8
MA403	NUMERICAL METHODS	4	0	8	CE063	SENSORS AND ACTUATORS	4	0	8
MF401	MATERIAL MANUFACTURING	4	0	8	HU401	MAN , HISTORY AND SOCIETY	4	0	8
ID400	ADVANCED COMMUNICATION IN ENGLISH	4	0	8	CE401	COMPUTER NETWORKS	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
MA404	PROBABILITY	4	0	8	MC414	HEAT TRANSFERENCE	4	0	8
MA407	DIFFERENTIAL EQUATIONS	4	0	8	CE402	COMPUTER NETWORKS APPLICATIONS	4	0	8
FI402	PHYSICS III	6	0	8	CE064	MECHATRONIC PROTOTYPE MODELING	4	0	8
MC402	MATERIALS MECHANICS	4	0	8	HU402	MAN AND ETHICS	4	0	8
MF402	COMPUTER MANUFACTURING	4	0	8	CE065	MICROCONTROLLER DESIGN	4	0	8
		22	0	40			20	0	40

FIRST SEMESTER

MA400 MATHEMATICS

This course is offered to all students that study a Business Administration or Engineering major, in order to provide them basic mathematics that allow them to take the following math courses from their training area. The course addresses the concepts of logical mathematics in a practical way.

PRE-REQUISITE:

CC400 PROGRAMMING METHODS I

This course expects engineering students to understand and apply the basic concepts of structured programming, oriented to objects, to design algorithms and create computer programs, encouraging students to solve numerical problems, and manage characters. The course will emphasize the creation of flow diagrams, algorithms and the use of a programming language to solve practical problems. The course is designed to take students along a smooth path towards learning the Programming Methodology, following strategies for problem solution. In order to achieve this, there is a series of topics that go from simple problems to problems of medium complexity.

PRE-REQUISITE:

II400 INTRODUCTION TO MECHATRONICS

Mechatronics is an engineering area that makes a strong impact on production systems, based on the integration of mainly 3 areas: electronics, control engineering, and precision mechanics. This course is designed to introduce first semester students to university life, and discover the surroundings regarding engineering as a career, the knowledge of the major that students have chosen as a professional career, and the acquisition of basic knowledge of some of the areas that comprise such major. Likewise, during the course, students will be provided with the introduction, necessary for the different areas by which CETYS University performs, so students make this new university theirs, and use the facilities properly and the services it offers.

PRE-REQUISITE:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

SECOND SEMESTER

MC400 COMPUTER DESIGN

This course's objective is for students to acquire basic knowledge that is based on engineering design, and through the use of computer aided-design (CAD) software, students can apply such knowledge in the elaboration and interpretation of prints that describe the size and shape of products, and industrial parts. The course belongs to the engineering training area, and is essential to all those majors that have to do with design and manufacturing of parts and products. Its nature is totally practical, additionally, the course is carried on in a shop, where students will learn, at least, one CAD software. The knowledge and skills developed during this course will be very useful for students to better understand and successfully perform in courses related to the design of parts and manufacturing products, and in general, any course within their program involving the elaboration and interpretation of manufacturing prints.

PRE-REQUISITE:

MA401 DIFFERENTIAL CALCULUS

This course is a theoretical one, it will allow students the correct formulation, solution, and discussion of problems that involve derivatives of functions of one variable. Students must apply calculus of derivatives in the evaluation of optimum values of algebra and transcendent functions.

PRE-REQUISITE: MA400 Mathematics

CC402 PROGRAMMING METHODS II

This course is a continuation of Programming Methods I, and is oriented to completing a basic body of existing elements in Java programming language, that allows the solution of problems with a focus on objects. The course comprises the study of programming fundamentals oriented to objects, so students can solve problems creating their own classes that imply the use of arrangements, files and data structure, all this in an environment of graphic programming. Programming Methods II, is a relevant course within the engineering program, since in addition to computer programming, it is a fundamental knowledge of any engineer, it promotes analytical and creative skills in students. Furthermore, the course will be used as a base and/or tool for other courses that students will course in their program.

PRE-REQUISITE: CC400 Programming Methods I

FI400 PHYSICS I

It is a theoretical-practical course, based on the statistics of particles and rigid solids. Practices made constitute the initial immersion of engineering students in Metrology, as well as the implementation of simple devices and the correct report of an experiment's report. Basically, students question nature on the condition of static equilibrium and design devices to obtain such quantitative information on it. Equipment, devices, and techniques will be learned to use and apply. A pre-requisite of this course is Math, and the pre-conceptions of Physics acquired in High School.

PRE-REQUISITE:

MF400 PROPERTIES OF MATERIALS

In a basic way, this course intends to address two great areas in which the study of materials is divided: Science and Materials Engineering. Its objective is that students know and understand the scientific theories on which properties are based to apply this knowledge into the adequate selection of material given a specific application. Evidently, through this course, a materials specialist cannot be formed, however, the scientific bases on which observable properties are based on, therefore, understand the behavior of most materials and visualize their potential applications. The course belongs to the professional training area and it is a basic one within the group of courses that comprise the materials area. It is essential for those programs that have to do with problems involving the selection of materials. Its nature is theoretical and practical, since it comprises from scientific theories that relate the different levels of internal structure of materials, with observable properties in them; they encourage students to visualize the potential applications of materials basing on their properties. The knowledge and skills developed during this course will be very useful for students, to better understand and successfully perform in related courses, such as: materials manufacturing, materials mechanics, introduction to design, physical metallurgics, and in general any course within their program that involves materials in any way.

PRE-REQUISITE:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

MA402 INTEGRAL CALCULUS

This is a theoretical-practical course preceded by Math and Differential Calculus. Here students will learn and apply the concepts of antiderivative and definite integral, and they will identify the main applications related to the engineering sciences. It includes techniques for the integration of algebra and transcendental functions, as well as their applications to calculating areas and volume. This course is very linked to math, differential calculus, physics I, II, and III, multivariable calculus, differential equations, probability, statistic inference, operation research models II, and systems simulation, among others. Therefore, this is a fundamental course in students' program.

PRE-REQUISITE: MA400 Math; MA401 Differential Calculus

FI401 PHYSICS II

Throughout the course, the kinematics and dynamic effect is studied, resulting in two- and three-dimension systems of force acting on a particle. The general topics of the course are: kinematics of particles, energy conservation, work and amount in motion. At the end of the course, students will acquire skills, attitudes, abilities, and essential knowledge for the design and manufacturing motion systems that are useful for the practice of engineering.

PRE-REQUISITE: FI400 PHYSICS I

MA403 NUMERICAL METHODS

This course is included in Mechanical, Manufacturing, Industrial, Cybernetic Electronics, and Computer Science Engineering. Its objective is the establishment of a platform of theoretical and application knowledge for the solution of problems presented in the engineering area in any of its fields; such problems can be presented in electronic applications, models, and system simulation, finite models, heat transference, chemistry, marketing, and economics, among others. During the course, the following topics will be studied: solution of root equations, roots of polynomials, linear equation systems, curve fitting for linear regression and linear interpolation, and minimum squares, as well as diverse methods for the process of numerical integration. The solution to these problems will be based on non-traditional methods and oriented to the use of computers as a tool of great use.

PRE-REQUISITE: MA400 Math, CC400 Programming Methods I; CC402 Programming Methods II

MF401 MATERIALS MANUFACTURING

This course's basic objective is the study and comprehension of one of the fundamental stages in a life cycle of a product: the transformation processes of raw matters in useful products. The most common industrial materials are studied, their obtaining, processes and properties until becoming finished products. With the acquired knowledge, students will understand a great variety of processes through which the greater part of products with which we interact in our daily lives are obtained. In order to study this course, it is very important to have previous knowledge of science and materials engineering, additionally, it is of great help any knowledge and experience regarding the transformation processes. The knowledge and skills developed in this course will be very useful for students to better understand and successfully perform in courses related to the design of manufacturing products, such as computer manufacturing, manufacturability, product design, and in general, any course within their program involving in any way materials and their transformation to useful products.

PRE-REQUISITE:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

CS404 Culture II Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER

MA404 PROBABILITY

This course reviews the basic axioms and the fundamental models of probability for the analysis of a random behavior of variables in engineering systems. The concept of math expectation and its applications in decision-making is included.

PRE-REQUISITE:

MA407 DIFFERENTIAL EQUATIONS

In this course, engineering students are exposed to reasons of change and differential equations, identifying and applying their analytical solution methods to model the dynamic behavior of natural and artificial systems related to the field of engineering. Specifically, the course includes the study of different solution methods for differential equations of first order, solution methods for linear differential equations of higher order with constant coefficient and the use of Laplace for its solution.

PRE-REQUISITE:

FI402 PHYSICS III

This is a theoretical-practical course; students will receive the knowledge, skills, abilities, and attitudes required as the fundamentals of electromagnetism. During the course, students solve problems, develop lab practices, implement simple devices, and develop projects. This course is associated to Physics I, and II, which are pre-requisites. It is also related to specialized courses that involve presence at the lab to make measurements with a multimeter and an oscilloscope. A solid training is needed in Differential and Integral Calculus, and abstraction skills towards vectorial analysis.

PRE-REQUISITE: FI401 Physics II

MC402 MATERIALS MECHANICS

In this course elements of static systems are designed, either isolated, or complete. Properties of the materials used in design are considered, therefore the activities made at the lab constitute a real contact with these properties. So students relate objectively the theoretical part of the course with the practical part involved in design. Likewise, the specifications or norms indicated internationally are also considered for the design of these elements.

PRE-REQUISITE:

MF402 COMPUTER MANUFACTURING

The objective of this course is that students increase their knowledge, skills and abilities of design, previously acquired in the manufacturing course, through the use of modelation software focused to the design and manufacturing of products, dimensional and geometrical analysis allowed for the interpretation of engineering prints, as well as cost analysis of parts or products focused to manufacturing processes and programming management in numerical control for manufacturing parts or products. The course has a theoretical-practical nature, and is placed in the fourth semester of the mechanical engineering program. The related courses are: computer design, materials properties, materials manufacturing, electropneumatics and hydraulics, design engineering, and mechanism dynamics.

PRE-REQUISITE:

FIFTH SEMESTER

MC415 INTRODUCTION TO DESIGN

This course has a practical nature and is focused on the study and analysis of applicable loads and generated effort in different machine elements, as well as the study and application of different theories that predict the way these elements can fail during service. In order to take this course successfully, students must have coursed and passed Materials Mechanics (Materials Resistance), and be willing to study and analyze the problems involved in reasoning. This course is an introduction to principles that are based on the design of machine elements and is a base for materials related to this area, like: Finite Modeling, and Design Engineering, among others.

PRE-REQUISITE:

MA406 MULTIVARIANT CALCULATION

In this course, students will develop knowledge, skills, and abilities required to solve problems that involve more than one independent variable, derivatives, and integrals. Likewise, they will manage and pose problems involving parametric and polar equations in their description. It is related to Differential and Integral Calculus which are pre-requisites, as well as Programming I and II, which allow solving problems with assistance of the computer.

PRE-REQUISITE:

MC410 MECHANISM DYNAMICS

The course is focused on the study of inertial loads in mechanisms or components of machine elements, machine vibration and balance.

PRE-REQUISITE:

CE059 ELECTRONIC SYSTEMS I

It is important that Mechatronics Engineering students have theoretical knowledge and the ability to analyze and design analogue circuits that will be useful in the development of systems. During this course, students will be exposed to methods of analysis of electric circuits that are applied to any electric or electronic circuit, as well as semiconductor devices like diodes and transistors, and their applications. The general purpose of the course is that students have the opportunity, through theoretical and practical exposition, to know the different types of analysis of circuits commonly used, and to acquire the capacity of identifying, analyzing, and designing systems based on discrete semiconductor devices and with linear circuits. At the end of the course, students will see applications of linear circuits like operational amplifiers. The general topics of the course are: electric circuits, diodes, transistors, and linear circuits.

PRE-REQUISITE:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:

SIXTH SEMESTER**MC407 ELECTROPNEUMATICS AND HIDRAULICS**

The objective of this course is to achieve that students acquire basic knowledge on the components of pneumatics and hydraulics, and the operations that can be made with them. Likewise, students will know the electric control elements and their functional relation with pneumatic and hydraulic components. With the knowledge and skills developed throughout the course, students will develop the capacity to design and implement electropneumatic circuit diagrams, and basic electrohydraulic diagrams, that is, they can solve simple problems that involve the design and interpretation of pneumatic and basic hydraulic circuits, according to schemes of electric control locating and correcting faults in them. The knowledge acquired will be very useful for courses related to machine automation and processes like Automation and Industrial Robotics, Programmable Controllers, and Sensors y Actuators, among others.

PRE-REQUISITE:

CE060 ELECTRONIC SYSTEMS II

It is important that Mechatronics Engineering students have theoretical knowledge and the skills to analyze and design digital circuits that will be useful in the development of systems. In this course, students will be exposed to binary algebra, methods analysis, and design of digital circuits, combinational and sequential. Diverse circuits will be used at diverse integration scales, as well as programmable devices. This is a theoretical-practical course; at least one third of the course consists of practical work in the lab, where theoretical material discussed in class will be applied and strengthened. The course is oriented to the solution of problems and the implementation of the circuits that solve it.

PRE-REQUISITE:

CE061 AUTOMATION AND INDUSTRIAL ROBOTICS

The course will provide the theoretical and practical fundamentals related to industrial robots with a focus on their functioning and application, providing the bases regarding automation and industrial control. The general purpose of the course is that students have the opportunity, through theoretical and practical exposition, to know the different types of mechatronic systems, well as automation and industrial robotics focusing on their application and functioning.

PRE-REQUISITE:

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

SEVENTH SEMESTER**CE414 POWER ELECTRONICS**

This course provides theoretical and practical fundamentals related to power semiconductor devices, focusing on their functioning and application to converter circuits, such as rectifiers, invertors, regulators, choppers, and engine control circuits for direct and alternate currents. The general purpose of the course is that students have the opportunity to know the different types of power semiconductor devices, focusing on their application and functioning.

PRE-REQUISITE:

CE062 PROGRAMMABLE CONTROLLERS

In this course students will be exposed to technologies, tools, and methodologies for the design of automation solutions, using programmable controllers from diverse manufacturers. The general purpose of the course is that students have the opportunity to know technologies related to programmable controllers, and design of industrial automation solutions based on them.

PRE-REQUISITE:

CE063 SENSORS AND ACTUATORS

PRE-REQUISITE:

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

CE401 COMPUTER NETWORKS

In this course, students will be exposed to the knowledge and main fundamentals, in a theoretical-practical way, in the field of computer networking. This course will begin from the study of the 7 layers of the OSI model and the TCP/IP model, focusing mainly in link layers, networks, and transportation. Also, the most important aspects forming local area networks LAN will be studied, as well as communication means and devices that work in these networks. The topic of metropolitan networks MAN will also be studied, and wide area networks WAN, analyzing the main equipment and routing protocols that make it possible for data packages to travel among these networks and reach their destination. Another important aspect in the course will be the study of wireless networks and also new technologies that are currently being used in computer networking, which allow us to use applications in real time for voice, telephones, videoconferencing, and other multimedia applications. During the course, one or more visits to different computing centers in local companies will be made, to analyze and know the different solutions and characteristics that form these information networks, as well as to have a more complete and updated vision of what happens in this area.

PRE-REQUISITE:

EIGHTH SEMESTER**MC414 HEAT TRANSFERENCE**

PRE-REQUISITE:

CE402 COMPUTER NETWORK ANALYSIS

PRE-REQUISITE:

CE064 MODELING MECHANICAL PROTOTYPES

PRE-REQUISITE:

HU402 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

CE063 MICROCONTROLLER DESIGN

PRE-REQUISITE:

IM MECHANICAL ENGINEERING

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
MA400	MATHEMATICS	4	0	8	MA406	MULTIVARIATE CALCULUS	4	0	8
CC400	PROGRAMMING METHODS I INTRODUCTION TO MECHANICAL ENGINEERING	4	0	8	MC403	FLUID MECHANICS	4	0	8
MC401		4	0	8	MC404	INTRODUCTION TO DESIGN	4	0	8
CS401	THINKING SKILLS	4	0	8	MC405	PHYSICAL METALLURGY	4	0	8
EC400	GLOBALIZATION AND ECONOMICAL DEVELOPMENT	4	0	8	ID400	ADVANCED COMMUNICATION IN ENGLISH	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
MC400	COMPUTER SKETCHING	4	0	8	MC406	FINITE MODELING	4	0	8
MA401	DIFFERENTIAL CALCULUS	4	0	8	MC407	ELECTRO PNEUMATICS AND HYDRAULICS	4	0	8
CC402	PROGRAMMING METHODS II	4	0	8	MC408	THERMODYNAMICS	4	0	8
FI400	PHYSICS I	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
MF400	PROPERTIES OF MATERIALS	4	0	8	HU400	MAN AND ENVIRONMENT	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
MA402	INTEGRAL CALCULUS	4	0	8	MC409	ENGINEERING DESIGN	4	0	8
FI401	PHYSICS II	4	0	8	MC410	MECHANISM DYNAMICS	4	0	8
MA403	NUMERICAL METHODS	4	0	8	MC411	CONTROL AND AUTOMATION	4	0	8
MF401	MATERIAL MANUFACTURING	4	0	8	HU401	MAN , HISTORY AND SOCIETY	4	0	8
CS400	ADVANCED COMMUNICATION IN SPANISH	4	0	8		ELECTIVE I	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
MA404	PROBABILITY	4	0	8	MC412	MECHANICAL EXPERIMENTAL ANALYSIS	4	0	8
MA407	DIFFERENTIAL EQUATIONS	4	0	8	MC413	PLANT ENGINEERING	4	0	8
FI402	PHYSICS III	6	0	8	MC414	HEAT TRANSFERENCE	4	0	8
MC402	MATERIAL MECHANICS	4	0	8	HU402	MAN AND ETHICS	4	0	8
MF402	COMPUTER MANUFACTURING	4	0	8		ELECTIVE II	4	0	8
		22	0	40			20	0	40

FIRST SEMESTER

MA400 MATHEMATICS

This course is offered to all students that study a Business Administration or Engineering major, in order to provide them basic mathematics that allow them to take the following math courses from their training area. The course addresses the concepts of logical mathematics in a practical way.

PRE-REQUISITE:

CC400 PROGRAMMING METHODS I

This course expects engineering students to understand and apply the basic concepts of structured programming, oriented to objects, to design algorithms and create computer programs, encouraging students to solve numerical problems, and manage characters. The course will emphasize the creation of flow diagrams, algorithms and the use of a programming language to solve practical problems. The course is designed to take students along a smooth path towards learning the Programming Methodology, following strategies for problem solution. In order to achieve this, there is a series of topics that go from simple problems to problems of medium complexity.

PRE-REQUISITE:

II400 INTRODUCTION TO MECHANICAL ENGINEERING

This course is designed to introduce first semester students to university life, and discover the surroundings regarding engineering as a career, the knowledge of the major that students have chosen as a professional career, and the acquisition of basic knowledge of some of the areas that comprise such major. Likewise, during the course, students will be provided with the introduction, necessary for the different areas by which CETYS University performs, so students make this new university theirs, and use the facilities properly and the services it offers.

PRE-REQUISITE:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:

SECOND SEMESTER

MC400 COMPUTER DESIGN

This course's objective is for students to acquire basic knowledge that is based on engineering design, and through the use of computer aided-design (CAD) software, students can apply such knowledge in the elaboration and interpretation of prints that describe the size and shape of products, and industrial parts. The course belongs to the engineering training area, and is essential to all those majors that have to do with design and manufacturing of parts and products. Its nature is totally practical, additionally, the course is carried on in a shop, where students will learn, at least, one CAD software. The knowledge and skills developed during this course will be very useful for students to better understand and successfully perform in courses related to the design of parts and manufacturing products, and in general, any course within their program involving the elaboration and interpretation of manufacturing prints.

PRE-REQUISITE:

MA401 DIFFERENTIAL CALCULUS

This course is a theoretical one, it will allow students the correct formulation, solution, and discussion of problems that involve derivatives of functions of one variable. Students must apply calculus of derivatives in the evaluation of optimum values of algebra and transcendent functions.

PRE-REQUISITE: MA400 Mathematics

CC402 PROGRAMMING METHODS II

This course is a continuation of Programming Methods I, and is oriented to completing a basic body of existing elements in Java programming language, that allows the solution of problems with a focus on objects. The course comprises the study of programming fundamentals oriented to objects, so students can solve problems creating their own classes that imply the use of arrangements, files and data structure, all this in an environment of graphic programming. Programming Methods II, is a relevant course within the engineering program, since in addition to computer programming, it is a fundamental knowledge of any engineer, it promotes analytical and creative skills in students. Furthermore, the course will be used as a base and/or tool for other courses that students will course in their program.

PRE-REQUISITE: CC400 Programming Methods I

FI400 PHYSICS I

It is a theoretical-practical course, based on the statistics of particles and rigid solids. Practices made constitute the initial immersion of engineering students in Metrology, as well as the implementation of simple devices and the correct report of an experiment's report. Basically, students question nature on the condition of static equilibrium and design devices to obtain such quantitative information on it. Equipment, devices, and techniques will be learned to use and apply. A pre-requisite of this course is Math, and the pre-conceptions of Physics acquired in High School.

PRE-REQUISITE:

MF400 PROPERTIES OF MATERIALS

In a basic way, this course intends to address two great areas in which the study of materials is divided: Science and Materials Engineering. Its objective is that students know and understand the scientific theories on which properties are based to apply this knowledge into the adequate selection of material given a specific application. Evidently, through this course, a materials specialist cannot be formed, however, the scientific bases on which observable properties are based on, therefore, understand the behavior of most materials and visualize their potential applications. The course belongs to the professional training area and it is a basic one within the group of courses that comprise the materials area. It is essential

for those programs that have to do with problems involving the selection of materials. Its nature is theoretical and practical, since it comprises from scientific theories that relate the different levels of internal structure of materials, with observable properties in them; they encourage students to visualize the potential applications of materials basing on their properties. The knowledge and skills developed during this course will be very useful for students, to better understand and successfully perform in related courses, such as: materials manufacturing, materials mechanics, introduction to design, physical metallurgics, and in general any course within their program that involves materials in any way.

PRE-REQUISITE:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

MA402 INTEGRAL CALCULUS

This is a theoretical-practical course preceded by Math and Differential Calculus. Here students will learn and apply the concepts of antiderivative and definite integral, and they will identify the main applications related to the engineering sciences. It includes techniques for the integration of algebra and trascendental functions, as well as their applications to calculating areas and volume. This course is very linked to math, differential calculus, physics I, II, and III, multivariable calculus, differential equations, probability, statistic inference, operation research models II, and systems simulation, among others. Therefore, this is a fundamental course in students' program.

PRE-REQUISITE: MA400 Math; MA401 Differential Calculus

FI401 PHYSICS II

Throughout the course, the kinematics and dynamic effect is studied, resulting in two- and three-dimension systems of force acting on a particle. The general topics of the course are: kinematics of particles, energy conservation, work and amount in motion. At the end of the course, students will acquire skills, attitudes, abilities, and essential knowledge for the design and manufacturing motion systems that are useful for the practice of engineering.

PRE-REQUISITE: FI400 PHYSICS I

MA403 NUMERICAL METHODS

This course is included in Mechanical, Manufacturing, Industrial, Cybernetic Electronics, and Computer Science Engineering. Its objective is the establishment of a platform of theoretical and application knowledge for the solution of problems presented in the engineering area in any of its fields; such problems can be presented in electronic applications, models, and system simulation, finite models, heat transference, chemistry, marketing, and economics, among others. During the course, the following topics will be studied: solution of root equations, roots of polynomials, linear equation systems, curve fitting for linear regression and linear interpolation, and minimum squares, as well as diverse methods for the process of numerical integration. The solution to these problems will be based on non-traditional methods and oriented to the use of computers as a tool of great use.

PRE-REQUISITE: MA400 Math, CC400 Programming Methods I; CC402 Programming Methods II

MF401 MATERIALS MANUFACTURING

This course's basic objective is the study and comprehension of one of the fundamental stages in a life cycle of a product: the transformation processes of raw matters in useful products. The most common industrial materials are studied, their obtaining, processes and properties until becoming finished products. With the acquired knowledge, students will understand a great variety of processes through which the greater part of products with which we interact in our daily lives are obtained. In order to study this course, it is very important to have previous knowledge of science and materials engineering, additionally, it is of great help any knowledge and experience regarding the transformation processes. The knowledge and skills developed in this course will be very useful for students to better understand and successfully perform in courses related to the design of manufacturing products, such as computer manufacturing, manufacturability, product design, and in general, any course within their program involving in any way materials and their transformation to useful products.

PRE-REQUISITE:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER

MA404 PROBABILITY

This courses reviews the basic axioms and the fundamental models of probability for the analysis of a random behavior of variables in engineering systems. The concept of math expectation and its applications in decision-making is included.

PRE-REQUISITE:

MA407 DIFFERENTIAL EQUATIONS

In this course, engineering students are exposed to reasons of change and differential equations, identifying and applying their analytical solution methods to model the dynamic behavior of natural and artificial systems related to the field of engineering. Specifically, the course includes the study of different solution methods for differential equations of first order, solution methods for linear differential equations of higher order with constant coefficient and the use of Laplace for its solution.

PRE-REQUISITE:

FI402 PHYSICS III

This is a theoretical-practical course; students will receive the knowledge, skills, abilities, and attitudes required as the fundamentals of electromagnetism. During the course, students solve problems, develop lab practices, implement simple devices, and develop projects. This course is associated to Physics I, and II, which are pre-requisites. It is also related to specialized courses that involve presence at the lab to make measurements with a multimeter and an oscilloscope. A solid training is needed in Differential and Integral Calculus, and abstraction skills towards vectorial analysis.

PRE-REQUISITE: FI401 Physics II

MC402 MATERIALS MECHANICS

In this course elements of static systems are designed, either isolated, or complete. Properties of the materials used in design are considered, therefore the activities made at the lab constitute a real contact with these properties. So students relate objectively the theoretical part of the course with the practical part involved in design. Likewise, the specifications or norms indicated internationally are also considered for the design of these elements.

PRE-REQUISITE:

MF402 COMPUTER MANUFACTURING

The objective of this course is that students increase their knowledge, skills and abilities of design, previously acquired in the manufacturing course, through the use of modelation software focused to the design and manufacturing of products, dimensional and geometrical analysis allowed for the interpretation of engineering prints, as well as cost analysis of parts or products focused to manufacturing processes and programming management in numerical control for manufacturing parts or products. The course has a theoretical-practical nature, and is placed in the fourth semester of the mechanical engineering program. The related courses are: computer design, materials properties, materials manufacturing, electropneumatics and hydraulics, design engineering, and mechanism dynamics.

PRE-REQUISITE:

FIFTH SEMESTER

MA406 MULTIVARIANT CALCULATION

In this course, students will develop knowledge, skills, and abilities required to solve problems that involve more than one independent variable, derivatives, and integrals. Likewise, they will manage and pose problems involving parametric and polar equations in their description. It is related to Differential and Integral Calculus which are pre-requisites, as well as Programming I and II, which allow solving problems with assistance of the computer.

PRE-REQUISITE:

MC403 FLUID MECHANICS

The objective is to introduce students to the fundamental principles of uncomprehensible fluid mechanics. Fundamental principles such as properties and definitions used to introduce students to basic concepts like fluids at rest. Later, general conservation equations are introduced in a differential and integral way. These basic principles are applied to fundamental problems of fluid mechanics, such as pressure drop in plumbing systems, estimation of drag force, etc.

PRE-REQUISITE:

MC415 INTRODUCTION TO DESIGN

This course has a practical nature and is focused on the study and analysis of applicable loads and generated effort in different machine elements, as well as the study and application of different theories that predict the way these elements can fail during service. In order to take this course successfully, students must have coursed and passed Materials Mechanics (Materials Resistance), and be willing to study and analyze the problems involved in reasoning. This course is an introduction to principles that are based on the design of machine elements and is a base for materials related to this area, like: Finite Modeling, and Design Engineering, among others.

PRE-REQUISITE:

MC405 PHYSICAL METALURGICS

The course is focused on the study of properties of ferroalloys, in relation to industrial applications. Evidently, specialists cannot be formed throughout the course regarding the metal applications, however, it provides bases for a specialization afterwards. This can be possible due to the fundamentals of diverse industrial applications of metals, and their alloys constitute a number of relatively small, essential ideas. These ideas comprise: the concepts of atomic and crystalline structure, the comprehension of alloys' behavior through balance diagrams, the knowledge of the nature of properties and variant mechanisms of such properties.

PRE-REQUISITE:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

SIXTH SEMESTER

MC406 FINITE MODELING

Students are expected to develop and apply software in the solution of engineering problems, that involve stress states, deformation and temperature distribution, heat transference, and amplitudes and modes of vibration. Regarding the development of solutions, students will solve them in an electronic sheet, and will prove them in specialized software.

PRE-REQUISITE:

SIXTH SEMESTER

MC407 ELECTROPNEUMATICS AND HIDRAULICS

The objective of this course is to achieve that students acquire basic knowledge on the components of pneumatics and hidraulics, and the operations that can be made with them. Likewise, students will know the electric control elements and their functional relation with pneumatic and hydraulic components. With the knowledge and skills developed throughout the course, students will develop the capacity to design and implement electropneumatic circuit diagrams, and basic electrohidraulic diagrams, that is, they can solve simple problems that involve the design and interpretation of pneumatic and basic hidraulic circuits, according electric control schemes locating and correcting faults in them. The knowledge acquired will be very useful for courses related to machine automation and processes like Automation and Industrial Robotics, Programmable Controllers, and Sensors y Actuators, among others.

PRE-REQUISITE:

MC408 THERMODYNAMICS

The objective of the course is that students learn the bases of thermodynamics, in a way that future engineers can apply these principles to the solution of problems. Students are expected to achieve these objectives through class presentations of topics related to the course, by the instructor and students themselves, like: problem solution, tasks, lab practice, counseling, etc. Thermodynamics is a basic discipline in mechanical engineering, and its understanding is fundamental for the design of countless devices, diverse problem solutions, energy saving, etc., thus, its great importance.

PRE-REQUISITE:

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

SEVENTH SEMESTER

MC409 ENGINEERING DESIGN

The course contemplates aspects regarding the analysis, calculation, and selection of machinery elements, like gears and chain gangs, cables, brakes, and clutches. During the course, students will have the opportunity to explain their knowledge in the mechanical design area, use computer software for modeling elements, manipulate and make a machinery project which will group several elements.

PRE-REQUISITE:

MC410 MECHANISM DINAMICS

The course is focused on the study of inertial loads in mechanisms or machinery element components, machinery vibration and balance.

PRE-REQUISITE:

MC411 AUTOMATION AND CONTROL

Students will have the opportunity, through theoretical and practical presentation, to know the most commonly used industrial automation techniques, as well as its correct use and design of solutions based on them. The general topics of the course are: industrial automation, instrumentation and control systems, logical programmable controllers, selection and integration of automation technologies.

PRE-REQUISITE:

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

ELECTIVE I

PRE-REQUISITE:

EIGHTH SEMESTER**MC412 MECHANICAL EXPERIMENTAL ANALYSIS**

The courses addresses the basic load considerations, forces, deformations, and resistances of different bodies, subject to uniaxial, biaxial and triaxial loads, the static relation between force and deformation, theories of failure, radially loaded cylindric members, the use of energetic methods for the calculation of elastic deflexion using the Castigliano method and impact load, the design of these body's dimensions, as well as design parameters used in experimental methods, like brittle lacquer, photoelasticity, and strain gauges. Some of the learning activites for this course are: analytical modelling of mechanical problems, calculation of conventional forces, unit deformation, specific and total energies, all this in an analytical way using specialized software, and experimental methods in very specific cases.

PRE-REQUISITE:

MC413 PLANT ENGINEERING

In this course, students will know and understand the general chemistry concepts and how they are used in companies to make their manufacturing processes. The topics to be discussed in class are: security and hygiene aspects, risk prevention, regulations, etc.

PRE-REQUISITE:

MC414 HEAT TRANSFERENCE

Students will know the fundamentals of heat transference in a way that future engineers can apply these principles to the solution of problems in its engineering practice. Students are expected to learn this objective through the presentation of ideas in class, by the instructor and by the students, of topics related to the course, problem solution, tasks, lab practice, counseling, etc.

PRE-REQUISITE:

HU402 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

ELECTIVE II

PRE-REQUISITE:

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
MA400	MATHEMATICS	4	0	8	MA405	STATISTIC INFERENCE	4	0	8
CS400	PROGRAMMING METHODS I INTRODUCTION TO SOFTWARE ENGINEERING	4	0	8	CC084	SOFTWARE ENGINEERING II	4	0	8
CC089	ENGINEERING	4	0	8	CC406	OPERATING SYSTEMS	4	0	8
CS401	THINKING SKILLS	4	0	8	CC083	MOBILE PROGRAMMING	4	0	8
CS400	ADVANCED COMMUNICATION IN SPANISH	4	0	8	EC400	GLOBALIZATION AND ECONOMICAL DEVELOPMENT	4	0	8
		20	0	40			20	0	40
2nd SEMESTER					6th SEMESTER				
MC400	COMPUTER SKETCHING	4	0	8	CC090	SOFTWARE PROJECT MANAGEMENT	4	0	8
MA401	DIFFERENTIAL CALCULUS	4	0	8	CC409	DATA BASE SYSTEMS	4	0	8
CS402	PROGRAMMING METHODS II	4	0	8	CC085	SOFTWARE ENGINEERING III	4	0	8
FI400	PHYSICS I	4	0	8	CS402	RESEARCH METHODOLOGY	4	0	8
CC403	COMPUTER SYSTEMS AND COMPONENTS	4	0	8	HU401	MAN, HISTORY AND SOCIETY	4	0	8
CS403	CULTURE I	2	0	4			20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
MA402	INTEGRAL CALCULUS	4	0	8	CC087	INTELLIGENT BUSINESS SYSTEMS	4	0	8
FI401	PHYSICS II	4	0	8	CC091	AGILE DEVELOPMENT OF SYSTEMS	4	0	8
MA403	NUMERICAL METHODS	4	0	8	CE401	COMPUTER NETWORKS	4	0	8
CS404	DATA STRUCTURE	4	0	8	HU400	MAN AND ENVIRONMENT	4	0	8
ID400	ADVANCED COMMUNICATION IN ENGLISH	4	0	8		ELECTIVE I	4	0	8
CS404	CULTURE II	2	0	4			20	0	40
		22	0	44					
4th SEMESTER					8th SEMESTER				
MA404	PROBABILITY	4	0	8		INFORMATION TECHNOLOGY MANAGEMENT	4	0	8
MA407	DIFFERENTIAL EQUATIONS	4	0	8	CC092	MANAGEMENT	4	0	8
FI402	PHYSICS III	6	0	8	CE066	NETWORK AND SECURITY MANAGEMENT	4	0	8
CC082	SOFTWARE ENGINEERING I	4	0	8	CC088	DISTRIBUTED COMPUTER TECHNOLOGIES	4	0	8
SI400	DATA BASE DESIGN	4	0	8	HU402	MAND AND ETHICS	4	0	8
		22	0	40		ELECTIVE II	4	0	8
							20	0	40

FIRST SEMESTER

MA400 MATHEMATICS

This course is offered to all students that study a Business Administration or Engineering major, in order to provide them basic mathematics that allow them to take the following math courses from their training area. The course addresses the concepts of logical mathematics in a practical way.

PRE-REQUISITE:

CC400 PROGRAMMING METHODS I

This course expects engineering students to understand and apply the basic concepts of structured programming, oriented to objects, to design algorithms and create computer programs, encouraging students to solve numerical problems, and manage characters. The course will emphasize the creation of flow diagrams, algorithms and the use of a programming language to solve practical problems. The course is designed to take students along a smooth path towards learning the Programming Methodology, following strategies for problem solution. In order to achieve this, there is a series of topics that go from simple problems to problems of medium complexity.

PRE-REQUISITE:

CC401 INTRODUCTION TO SOFTWARE ENGINEERING

This course is designed to introduce first semester students to university life, and discover the surroundings regarding engineering as a career, the knowledge of the major that students have chosen as a professional career, and the acquisition of basic knowledge of some of the areas that comprise such major. Likewise, during the course, students will be provided with the introduction, necessary for the different areas by which CETYS University performs, so students make this new university theirs, and use the facilities properly and the services it offers. The knowledge and skills developed during this course will be very useful for students to better understand the program of the major they chose, the courses it comprises, the relation between them and the professional and personal profile that is expected from them when graduating.

PRE-REQUISITE:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

SECOND SEMESTER

MC400 COMPUTER DESIGN

This course's objective is for students to acquire basic knowledge that is based on engineering design, and through the use of computer aided-design (CAD) software, students can apply such knowledge in the elaboration and interpretation of prints that describe the size and shape of products, and industrial parts. The course belongs to the engineering training area, and is essential to all those majors that have to do with design and manufacturing of parts and products. Its nature is totally practical, additionally, the course is carried on in a shop, where students will learn, at least, one CAD software. The knowledge and skills developed during this course will be very useful for students to better understand and successfully perform in courses related to the design of parts and manufacturing products, and in general, any course within their program involving the elaboration and interpretation of manufacturing prints.

PRE-REQUISITE:

MA401 DIFFERENTIAL CALCULUS

This course is a theoretical one, it will allow students the correct formulation, solution, and discussion of problems that involve derivatives of functions of one variable. Students must apply calculus of derivatives in the evaluation of optimum values of algebra and transcendent functions.

PRE-REQUISITE: MA400 Mathematics

CC402 PROGRAMMING METHODS II

This course is a continuation of Programming Methods I, and is oriented to completing a basic body of existing elements in Java programming language, that allows the solution of problems with a focus on objects. The course comprises the study of programming fundamentals oriented to objects, so students can solve problems creating their own classes that imply the use of arrangements, files and data structure, all this in an environment of graphic programming. Programming Methods II, is a relevant course within the engineering program, since in addition to computer programming, it is a fundamental knowledge of any engineer, it promotes analytical and creative skills in students. Furthermore, the course will be used as a base and/or tool for other courses that students will course in their program.

PRE-REQUISITE: CC400 Programming Methods I

FI400 PHYSICS I

It is a theoretical-practical course, based on the statistics of particles and rigid solids. Practices made constitute the initial immersion of engineering students in Metrology, as well as the implementation of simple devices and the correct report of an experiment's report. Basically, students question nature on the condition of static equilibrium and design devices to obtain such quantitative information on it. Equipment, devices, and techniques will be learned to use and apply. A pre-requisite of this course is Math, and the pre-conceptions of Physics acquired in High School.

PRE-REQUISITE:

CC403 COMPUTER COMPONENTS AND SYSTEMS

Students are expected to know and understand the diverse hardware elements that form a computer, as well as its organization and interaction with different software elements. The general topics of the course are: Introduction to the organization of computers, number systems, and data representation, digital computers, computer and peripheral systems, installation, and service.

PRE-REQUISITE:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

THIRD SEMESTER

MA402 INTEGRAL CALCULUS

This is a theoretical-practical course preceded by Math and Differential Calculus. Here students will learn and apply the concepts of antiderivative and definite integral, and they will identify the main applications related to the engineering sciences. It includes techniques for the integration of algebra and transcendental functions, as well as their applications to calculating areas and volume. This course is very linked to math, differential calculus, physics I, II, and III, multivariable calculus, differential equations, probability, statistic inference, operation research models II, and systems simulation, among others. Therefore, this is a fundamental course in students' program.

PRE-REQUISITE: MA400 Math; MA401 Differential Calculus

FI401 PHYSICS II

Throughout the course, the kinematics and dynamic effect is studied, resulting in two- and three-dimension systems of force acting on a particle. The general topics of the course are: kinematics of particles, energy conservation, work and amount in motion. At the end of the course, students will acquire skills, attitudes, abilities, and essential knowledge for the design and manufacturing motion systems that are useful for the practice of engineering.

PRE-REQUISITE: FI400 PHYSICS I

MA403 NUMERICAL METHODS

This course is included in Mechanical, Manufacturing, Industrial, Cybernetic Electronics, and Computer Science Engineering. Its objective is the establishment of a platform of theoretical and application knowledge for the solution of problems presented in the engineering area in any of its fields; such problems can be presented in electronic applications, models, and system simulation, finite models, heat transference, chemistry, marketing, and economics, among others. During the course, the following topics will be studied: solution of root equations, roots of polynomials, linear equation systems, curve fitting for linear regression and linear interpolation, and minimum squares, as well as diverse methods for the process of numerical integration. The solution to these problems will be based on non-traditional methods and oriented to the use of computers as a tool of great use.

PRE-REQUISITE: MA400 Math, CC400 Programming Methods I; CC402 Programming Methods II

CC404 DATA STRUCTURE

This course addresses aspects related to the development of programs from an efficient point of view. Different forms of data organization are analyzed, as well as related algorithms. Each different form of organization carries a cost in computer resources, in a way that the the form of studying such costs is assessed. Data organizations are defined as types of abstract data, which are implemented in a programming language oriented to objects. This is a classical fundamental course in Computer Science, and required in all programs within this area. The importance that this has in CETYS University's programs, is to be a base for students, indispensable to study latter courses, such as, manufacturing, operation systems, data base, advanced programming, networks, and in general, advanced programming topics. The course is placed in the third semester for Computer Science, Software, Computer Technologies Engineerings, and in fifth semester for Electronic Cybernetics Engineering.

PRE-REQUISITE:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression

PRE-REQUISITE: CS403 Culture I

FOURTH SEMESTER

MA404 PROBABILITY

This course reviews the basic axioms and the fundamental models of probability for the analysis of a random behavior of variables in engineering systems. The concept of math expectation and its applications in decision-making is included.

PRE-REQUISITE:

MA407 DIFFERENTIAL EQUATIONS

In this course, engineering students are exposed to reasons of change and differential equations, identifying and applying their analytical solution methods to model the dynamic behavior of natural and artificial systems related to the field of engineering. Specifically, the course includes the study of different solution methods for differential equations of first order, solution methods for linear differential equations of higher order with constant coefficient and the use of Laplace for its solution.

PRE-REQUISITE:

FI402 PHYSICS III

This is a theoretical-practical course; students will receive the knowledge, skills, abilities, and attitudes required as the fundamentals of electromagnetism. During the course, students solve problems, develop lab practices, implement simple devices, and develop projects. This course is associated to Physics I, and II, which are pre-requisites. It is also related to specialized courses that involve presence at the lab to make measurements with a multimeter and an oscilloscope. A solid training is needed in Differential and Integral Calculus, and abstraction skills towards vectorial analysis.

PRE-REQUISITE: FI401 Physics II

CC082 SOFTWARE ENGINEERING I

In this course, students from computing areas will be exposed to the concept of Data Bases, from a theoretical-practical perspective; students will put into practice their knowledge of the course through SQL and the design of a data base course project. The theoretical fundamentals of data bases will be discussed in general, with the Entity/Relation model. Then, the relational model, as a theoretical base for most current data base systems, will be studied in detail. Next, the logical design of a data base will be studied using the normalization process, and last, SQL standard language will be studied for the use of a Relational Data Base. This is a fundamental course for all students enrolled in a computing program, since data bases are an indispensable element in all information systems. Students are required to have basic knowledge on data structure, information systems, in addition to programming in any application development language.

PRE-REQUISITE:

SI400 DATABASE DESIGN

Students will be exposed to the concept of data base, from a theoretical-practical perspective, since they will put into practice their knowledge of the course through SQL, and to design a data base project course. Firstly, the fundamental theories of databases in general will be studied, as well as the entity-relation model. Then, the relational model will be studied in detail as a fundamental theory for most current data base systems. Afterwards, the logical design of a data base will be studied, using the normalization process, and finally, the standard language SQL will be studied for the use of a relational data base BDR. This course is fundamental for all students studying in a computing program, since data bases are an indispensable element in all information systems. In order to study this course, students are required to have basic Data Structure knowledge, Information Systems, and they must also know how to program in any language from applications development.

PRE-REQUISITE:

FIFTH SEMESTER

MA405 STATISTICS INFERENCE

In this course, students will be exposed to the fundamental concepts of classical statistics, seen as analysis and synthesis tools of information to facilitate decision-making in planning, design, operation and systems control of their interest. During the course, students will develop skills to identify opportunities to apply these concepts, by making and solving the corresponding inference problems. In order to show mastery of the course, they will develop a capstone project, that consists of making and solving statistic inference problems of their interest. This course recovers from Probability, the basic axioms of probability and concepts of random variables, distribution of probability, math expectations and variance, while the math courses deal with concepts of fusion and differential and integral calculus of one or two independent variables. From this point in the program, the course will be closely linked to experiment design, operations research models II, system simulation, software development process, artificial intelligence I, and the production systems engineering courses.

PRE-REQUISITE:

CC084 SOFTWARE ENGINEERING II

PRE-REQUISITE:

CC406 OPERATING SYSTEMS

This course is included in Computer Science Engineering and Electronic Cybernetics Engineering to strengthen the skills in the analysis and evaluation of operating systems. The focus is to continue through a conceptual analysis of the components of any operating system: processes, memory, synchronization mechanisms, blocking, input and output devices, and files systems. On the practical side, students will develop programs using Java programming language in a UNIX operating system, or a similar one.

PRE-REQUISITE:

CC083 MOBILE PROGRAMMING**PRE-REQUISITE:****EC400 Globalization and Economic Development**

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:**SIXTH SEMESTER****CC090 SOFTWARE PROJECT MANAGEMENT****PRE-REQUISITE:****CC409 DATABASE SYSTEMS**

This course expects students to know the functions of a Data Base Administrator DBA. The management of transactions will also be studied, regarding recovery and concurrency control. Students will use tools to carry on functions like DBA, from the creation of data bases, information security, back up, and recovery, as well as exporting and importing data, and technical follow up. Students will know the importance of store procedures and triggers in data base areas and will develop examples where they are applied.

PRE-REQUISITE:**CC085 SOFTWARE ENGINEERING III****PRE-REQUISITE:****CS402 Research Methodology**

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:**HU401 Man, History and Society**

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes man kind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:**SEVENTH SEMESTER****CC087 INTELLIGENT BUSINESS SYSTEMS****PRE-REQUISITE:****CC091 AGILE DEVELOPMENT OF SYSTEMS****PRE-REQUISITE:****CE401 COMPUTER NETWORKS**

In this course, students will be exposed to the knowledge and main fundamentals, in a theoretical-practical way, in the field of computer networking. This course will begin from the study of the 7 layers of the OSI model and the TCP/IP model, focusing mainly in link layers, networks, and transportation. Also, the most important aspects forming local area networks LAN will be studied, as well as communication means and devices that work in these networks. The topic of metropolitan networks MAN will also be studied, and wide area networks WAN, analyzing the main equipment and routing protocols that make it possible for data packages to travel among these networks and reach their destination. Another important aspect in the course will be the study of wireless networks and also new technologies that are currently being used in computer networking, which allow us to use applications in real time for voice, telephones, videoconferencing, and other multimedia applications. During the course, one or more visits to different computing centers in local companies will be made, to analyze and know the different solutions and characteristics that form these information networks, as well as to have a more complete and updated vision of what happens in this area.

PRE-REQUISITE: CC404 Data Structure; CC406 Operating Systems**HU400 Man and Environment**

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

ELECTIVE I

PRE-REQUISITE:

EIGHT SEMESTER

CC092 INFORMATION TECHNOLOGY MANAGEMENT

PRE-REQUISITE:

CE066 SECURITY AND NETWORK MANAGEMENT

PRE-REQUISITE:

CC088 DISTRIBUTED COMPUTER TECHNOLOGY

PRE-REQUISITE:

HU402 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

ELECTIVE II

PRE-REQUISITE:

COMMON CORE (6 COURSES):

- DECISION MAKING STATISTICS
- RESEARCH METHODOLOGY
- STATISTIC MODELS
- DECISION SUPPORT SYSTEMS
- STRATEGY AND COMPETITIVENESS
- PROJECT MANAGEMENT

CONCENTRATION AREA (7 COURSES)**CONTROL AND AUTOMATION**

- CONTROL SYSTEMS FUNDAMENTALS
- PROGRAMMABLE CONTROL LAB
- INSTRUMENTS AND PROCESS CONTROL
- DIGITAL CONTROL LAB
- MANUFACTURING AUTOMATION AND CONTROL
- OBJECT PROGRAMMING AND CONTROL
- INTELLIGENT CONTROL SYSTEMS

MATERIALS AND LOGISTICS ADMINISTRATION

- SUPPLY CHAIN ADMINISTRATION
- LEAN MANUFACTURE
- PREDICTION AND PLANNING MODELS
- INVENTORY ADMINISTRATION
- PRODUCTION AREA CONTROL
- LOGISTICS AND DISTRIBUTION
- SYSTEMS SIMULATOR

NETWORKS AND TELECOMMUNICATIONS

- TELECOMMUNICATION FUNDAMENTALS
- NETWORK DESIGN AND CONNECTIVITY
- HIGH PERFORMANCE NETWORKS
- WIRELESS NETWORKS
- SECURITY AND NETWORK ENVIRONMENT
- INFORMATION AND CODIFICATION THEORY
- NETWORK SERVICE ITEGRATION

INDUSTRIAL ADMINISTRATION

- MANUFACTURING STRATEGIES
- MANUFACTURING SYSTEMS DESIGN
- PLANT OPERATION MANAGEMENT
- INTERNATIONAL LOGISTICS AND OPERATIONS
- ECONOMICAL ASSESSMENT OF INDUSTRIAL PROJECTS
- HUMAN RESOURCE SEMINAR
- MARKETING SEMINAR

QUALITY AND PRODUCTIVITY

- TOTAL QUALITY MANAGEMENT
- QUALITY SYSTEMS AND NORMS
- QUALITY ENGINEERING
- STATISTIC MODELS TO IMPROVE QUALITY
- PRODUCTION SYSTEMS
- APPLICATION OF OPTIMIZATION MODELS I
- APPLICATION OF OPTIMIZATION MODELS II

CONCENTRATION AREA (7 COURSES)

DISTRIBUTED COMPUTER SYSTEMS

- ARCHITECTURE AND SOFTWARE DEVELOPMENT
- NETWORKS AND DISTRIBUTED SYSTEMS
- ADVANCED OBJECT PROGRAMMING
- OBJECT AND DATA SYSTEMS
- DISTRIBUTED SYSTEMS DESIGN
- INTEGRATION OF HETEROGENEOUS SYSTEMS
- MOBILE COMPUTING

MANUFACTURING DESIGN AND PROCESSES

- MATHEMATICAL MODELS OF MECHANICAL SYSTEMS
- EXPERIMENTAL ANALYSIS OF MECHANICAL PARTS
- PRODUCT PROTOTYPE GENERATION
- ENERGETIC DESIGN OF CAD-CAE TOOLS
- MATERIALS ENGINEERING
- THERMO-FLUID FUNDAMENTALS
- THERMAL SYSTEMS DESIGN AND APPLICATION

COMMON CONCENTRATION CORE FOR THE MASTER'S DEGREE IN SUSTAINABLE DEVELOPMENT

SUSTAINABLE DEVELOPMENT

- SOCIETY AND ENVIRONMENT
- ENVIRONMENT CONTAMINATION
- ENVIRONMENT EDUCATION
- SUSTAINABLE DEVELOPMENT
- DECISION MAKING STATISTICS
- RESEARCH METHODOLOGY

CONCENTRATION CORE FOR THE MASTER'S DEGREE IN SUSTAINABLE DEVELOPMENT

- ADMINISTRATION AND ENVIRONMENT MANAGEMENT
- ENVIRONMENT POLICIES
- ENVIRONMENT ADMINISTRATION SYSTEMS
- ENVIRONMENT SECURITY SYSTEMS

ENVIRONMENTAL ENGINEERING

- ENVIRONMENTAL ENGINEERING
- QUALITY ENVIRONMENT MODELS
- ENVIRONMENTAL IMPACT
- INTEGRAL RESIDUE MANAGEMENT

SUSTAINABLE DEVELOPMENT

- SUSTAINABLE INDICATORS
- ENVIRONMENTAL ECONOMY
- ENVIRONMENTAL PROJECT EVALUATION
- GLOBALIZATION AND ENVIRONMENT

MAJOR FIELD OF STUDIES: MAKE AN APPLICATION PROJECT

IN ADDITION, THERE IS THE MASTER'S DEGREE IN ENGINEERING WHERE STUDENTS STUDY THE COMMON CORE COURSES, AND CHOOSES SEVEN COURSES FROM ANY OF THE PROGRAMS WITH AN APPLICATION PROJECT.

COMMON CORE

MA 500 Decision Making Statistics

This core course studies statistical procedures through the use of computerized examples and the use of specialized software.

CS 502 Research Methodologies

This core course provides the student with the necessary tools to develop the general process of applied research which is centered, specifically, in the development of the protocol of the application project.

MA 502 Statistic Models

This core course deals with the presentation of probabilistic and statistic models used in different branches of engineering. It covers the study of theory of probability, random variables, sample distribution, parameter estimation models, and hypotheses validation procedures. This course is closely related to several topics from the Master's degree in engineering, such as Statistic methods for quality, Probabilistic Models of Optimization, Advanced Statistic Models, and System Simulation, among others.

SI 507 Decision Support Systems

The first part of this course deals with the role and importance of information systems in the decision making process. The second part of the course refers to models, concepts, and technology used in the design of decision support systems. Finally, the third part of the course deals with decision support systems in a corporate environment (Companies and Workgroups).

AD 510 Strategy and Competitiveness

The student will understand and integrate the elements or components which are involved in the design, formulation, and implementation of a business strategy. The student will understand current concepts of strategic management which impact in the organization such as, global competition, markets, technology, process development and integration of the organization. Once the business strategy possibilities and the current concepts which influence the organization are understood, the student will define the best strategy to follow in accordance to the plan established through the strategic management process.

The student will apply, in real life situations, the strategic management process with the purpose of developing competitiveness and sustainable development.

AD 509 Project Management

In this course the student will develop an integral vision of Project Management, the subject areas which comprise it, as well as its relationship to other disciplines. Throughout the course the student will develop the skills which will allow them to plan and organize a project, manage time and necessary resources, determine the necessary organizational structure to carry out the project, as well as the human aspects it implies. The student will apply techniques for cost determination, proposal control, and financial and risk evaluations. Overall, the student will be able to apply performance measures to evaluate the general performance of the project.

The student will use, in real-life scenarios, the strategic management process with the purpose of achieving sustainable competitiveness and development.

CONCENTRATION AREA

CONTROL AND AUTOMATION

CE 507 Control Systems Fundamentals

This subject provides the student with an overview of the different topics related to Control Systems which are essential for Industrial Automated Control Processes.

The characteristics of Discrete and Continuous Control Systems will be studied, emphasizing on the applications associated with them. Computer Aided Design and Analysis software such as Matlab is an important part of this course.

Topics include: Introduction to Control Systems, Continuous Control Systems, and Discrete Control Systems.

CE 508 Programmable Control Lab

The general purpose of this of this course is to allow the student to deal with a certain level of fluency the technology and programming languages for Programmable Logical Controllers, emphasizing the use of diverse types of Programmable Logical Controllers from different manufacturers.

The student will also acquire the skills to evaluate, choose and implement alternatives for automation problem-solving using Programmable Logical Controllers.

The topics include: Logical-Sequential Control Systems, Architecture and Working Environment of Programmable Logical Controllers, Software and Programming Techniques for Programmable Logical Controllers, Evaluation, Options and Implementation of problem-solving alternatives.

CE 509 Instruments and Process Control

This subject will provide the student with an overview of the different element which comprise and Instrumentation System and focuses on the systems analysis and design of electronic signal conditioning of dynamic variables for the control if industrial processes.

The different ways in which measurements for dynamic variables exist in our surroundings will be studied in this course. As well as design and implementation of electronic circuits to convert these measurements into data that is useful for an automated process control system.

The student will acquire the necessary skills to identify the existing types of sensors and transducers as well as the basis for the analysis, design and implementation of the different circuits which aid in the conditioning of the signals outputted by these elements.

Topics include: Fundamentals of Instrumentation of Process Control, Analog and Digital signal conditioning techniques, Transducers: Temperature, Mechanical, Optical; Design and Integration of Instrumentation Systems for Process Control.

CE 510 Digital Control Lab

The general purpose of this course is for the student to attain a certain level of fluency in the technology and languages associated with Microcontrollers and diverse digital controllers of specific use, strongly emphasizing on the use of different kind of controllers form different manufacturers.

The student will also attain the skills to evaluate, select, and implement problem-solving alternatives for automation employing Digital Controllers.

Topics include: Fundamentals of Digital Control, Architecture and Programming of Microcontrollers, Architecture and Programming of Digital Controllers for Specific use, Evaluation, Option, and Implementation of Solution Alternatives.

CE 511 Manufacturing Automation and Control

This course provides the student with an overview of the different issues related to Manufacturing Automation and Control.

The student will learn about Numerical Control, Robotics, and Mechatronics. All of which are focused on analysis and automation problem-solving. The computer aided design and analysis tools are an important aspect of this course.

Topics included: Automation and process control for manufacturing, Numerical Control Systems, Robotics, and Mechatronics.

CE 507 Object-oriented Programming and Control

This course provides the student with an overview of topics related to the development of object-oriented software used in process control.

CE 508 Intelligent Control Systems

This subject provides the student with an overview of different issues related to Intelligent Control of Automated Industrial Processes.

Diffused Control, Neural Networks, and Robust Control are studied with an emphasis on analysis and problem-solving of process control. Computer Aided Design and Analysis software such as Matlab is an important part of this course.

INDUSTRIAL ADMINISTRATION

MF 501 Manufacturing Strategies

The student will have a systemic vision of the chain of supply and how to solve problems related to manufacturing management and the chain of supply. This course studies the efficient integration of suppliers, manufacturers, warehouses, and stores in such a way that goods are produced and distributed in the right amounts, location and time. The latter with the purpose of minimizing overall system costs and still meeting required quality and service standards. In other words, the search for the optimization of the global supply system is a central part in the manufacturing process.

MF 502 Manufacturing Systems Design

This course is designed to provide the student of the Master's Degree Program in Industrial Administration with the knowledge of the activities that carried out in the area of design of a production system within the organization facing global markets where both customers and suppliers are located in different parts of the world. Special attention is placed in market dynamics and sudden changes in the tastes of potential customers and the actions that must be developed to promptly respond to the demand of international competition. The methodologies of product and service design, location and facilities design, Choosing of Process Technology and the design of the physical distribution of processes which integrate the operative strategy in this important area of modern administration.

II 508 Plant Operation Management

This course is designed to show the student of the Master's Degree Program in Industrial Engineering the different activities that the Plant Operations Management conducts within the organization facing global markets where both customers and suppliers are located in different parts of the world. Special attention is placed in market dynamics and sudden changes in the tastes of potential customers and the actions that must be developed to promptly respond to the demand of international competition. The students will analyze Productivity and Human Behavior Methodologies. Operations Programming, Production Activity Control (PAC), Choosing and Managing Process Technology, Project Planning and Control, all of which are an important part of the operation strategy in Modern Administration of production plants.

II 509 International Logistics and Operations

This course is designed to show the student of the Master's Degree Program in Industrial Engineering the different activities that the Planning and Production Control Area conducts within the organization facing global markets where both customers and suppliers are located in different parts of the world. Special attention is placed in market dynamics and sudden changes in the tastes of potential customers and the actions that must be developed to promptly respond to the demand of international competition. The student will analyze the required methodologies to develop a Feasible Master Production Program in dynamic manufacturing environments which force the constant need to innovate products or services offered by organizations.

FZ 509 Economical Assessment of Industrial Projects

This course is designed to provide the student of the Master's Degree Program in Industrial Administration with the understanding of basic principles and terminology to make economical analysis and the role of Economic Engineering in the decision-making process. This course touches the derivation of the basic factors in economic calculations and their use in the planning horizons in different years emphasizing on the importance of calculating the effective interest in economic analyses. Multiple factors are used to assess cash flows which present themselves in various industrial projects instructing the use of the main economic assessment of the industry. Finally, select topics include their own economic assessment in which we find the following studies: Market, Technical, and Economic.

RI 516 Human Resource Seminar

This course provides general knowledge on Human Resource Management, ranging from different planning elements, job design and description, recruitment, training and development, assessment and labor relations.

MK 511 Marketing Seminar

In this course the student will be introduced to the marketing process. The student will analyze market behavior, and types of consumers. The student will determine market opportunities and the role of marketing in meeting these opportunities, thus achieving the correct management of the marketing process.

MATERIALS MANAGEMENT AND LOGISTICS

II 502 Supply Chain Management

This course will provide an overall vision of the Supply Chain Management (SCM) with a strategic focus in an International Operations setting. The student will be able to incorporate the SCM focus on the optimization of the business's global functions. The student will know the different roles and activities of SCM. The student will understand the existing relationship between the planning process and inventory management in SCM. The student will be exposed to practical tools and contemporary cases which will allow the student to apply his knowledge to choose suppliers, logistics, outsourcing, global purchases, contracts, negotiation, and cost and price analysis. The student will be able to determine which information technologies for supply processes show a greater potential according to the business settings. Finally, the student will be able to determine how to apply the SCM focus for the student's company as a competitiveness factor.

MF 509 Lean Manufacturing

In this course the student will develop an overall vision of Lean Manufacturing, what the proper steps and organizational requirements for its implementation. Through case studying the student will develop a deep understanding of the implications of Lean Manufacturing and its benefits for the organization.

The student will know and use traditional Lean Manufacturing tools such as value chain mapping, quick change methods, total productive maintenance, problem-solving techniques, pulling systems and the visual factory. This course is strongly oriented towards the understanding and application of the Lean Manufacturing Implementation process in industrial settings.

II 504 Prediction and Planning Models

This course focuses its topics around master resource planning in the business planning process, ranging from demand management, sales planning, operation and Master planning. The course contemplates a general overview of the organization planning hierarchy, as well as its interrelation with the supply chain. The course provides the student with demand management tools through the use of prediction models in different business settings. The student will be able to determine which models are appropriate for each situation and will understand how these models work. The student will use a computer to implement these models in a real-life setting. The course will also provide the student with the sound knowledge of the sales and operations planning process in order to control new product development with the supply chain.

Finally, the student will understand, know and use the master programming process with different variables and focus depending on the type of organization.

II 503 Inventory Management

This course will provide the student with the theoretical foundation on inventory management which will allow them to participate from design and implementation to improvement of inventory management systems. The course contemplates a practical focus and application of inventory models including technical and statistical fundamentals to provide the students a complete understanding that allows assessment and decisions on the inventory system of an organization.

This course emphasizes on the importance of having trustworthy information which indicates amounts, quantities, exact location and identification which allow more profitability for the organization. Using the computer to work and generate inventory models. Emphasis is also placed on new technologies such as e-commerce and its impact on inventory model tendencies especially dependant demand.

The course provides knowledge and skills to establish an adequate inventory control through processes that allow the implementation of systems for classification, monitoring and control, which allow reliable and timely information.

Finally, this course provides the students with the necessary knowledge to understand the interface of inventory management with an emphasis on MRP and Just in Time. The course's methodology uses practical examples and the use of spreadsheets to facilitate their use, orienting the students towards a focus in analysis and interpretation of the information in favor of the decision-making process in a business setting.

II 505 Production Area Control

This course includes principles, focus and techniques which are required to program, control, measure and assess the effectiveness of production operations.

Topics for floor control under different settings such as workshops, continuous process, and high volume, all of which study the relationship with the labor environment and the physical organization of the facilities.

The student will be exposed to the different techniques through which a plant ensures feedback on the execution of its operations and provide customers and suppliers with information on the work in progress.

The course is comprised of three large stages which constitute floor operations control. These stages are: a) Prioritization and work sequences, b) plan execution, floor control implementation, c) Performance assessment and feedback.

II 506 Logistics and Distribution

This course will provide the student with the theoretical foundations of logistics and models of practical applications which will allow, along with computer assistance, participate from the design and implementation stages up to the improvement of logistic systems and distribution with an emphasis that includes the organization and the supply chain.

The course contemplates a practical and application focus starting with the knowledge of logistic models, including technical foundations to provide the student with a complete understanding that allows him to evaluate and decide on supply, warehouse, distribution and transportation.

The course provides the participant with a complete overview of modern tendencies in this discipline and on how to use information technologies for system optimization. The course pretends to expose the student to situations in which he must design, decide and determine strategies for system improvement.

II 507 Systems Simulator

This is focused on strengthening the abilities of design, analysis and system synthesis of the students. The systems which will be subject of study are the ones denominated as systems of human activity which are characterized fundamentally by including the human element and its components and presenting dynamic and stochastic behavior.

The need to model this type of systems may have many reasons: Understanding its behavior and being able to describe it in objective terms, searching for the design which optimizes its work, or proposing a design of a system which only exists as a project, as something that is in the planning phase or just a proposal of design techniques as implementing technology.

QUALITY AND PRODUCTIVITY

II 511 Total Quality Management

Throughout this course the student will learn the different concepts and principles of quality management with the purpose of generating a conceptual framework of a total quality management model and proposing their management in manufacturing and service organizations.

The course covers quality management processes from needs assessment of the customers to post-sale service. It also deals with the use and application of some models used for this purpose.

Students will learn concepts and fundamental models in the field of quality management, with a combination of readings, in-class participation, case problem solving, and other individual and group assignments. Along with the development of the previously mentioned abilities, students will also work in a cooperative learning environment. They will exercise their oral, written and graphical communication abilities to discuss and present information related to the concepts learned in this course.

II 511 Quality Systems and Norms

In this course it is intended that the student acquires knowledge of quality assurance systems with the objective of applying them in the control and quality improvement of products and services offered by organizations.

The course covers procedures for quality assurance from needs assessment of the customers to post sale services. The class also deals with the application and use of models and norms used by these procedures. Students will learn concepts and fundamental models in the field of assurance systems and norms through a combination of readings, in-class participation, case solving, and other individual or group assignments.

Along with the development of the previously mentioned abilities, students will also work in a cooperative learning environment. They will exercise their oral, written and graphical communication abilities to discuss and present information related to the concepts learned in this course.

II 512 Quality Engineering

In this course the student will learn the different concepts and principles of Quality Engineering, especially with statistical models applied in the control and improvement of the quality of products and processes. The student, with the purpose of making learning meaningful, will be involved in the partial and total application of the tools covered in class through the use of case studies, assignments and projects related to their professional field.

Once the learning activities are completed, students will apply statistical models of quality engineering, as well as the principles and fundamentals of control and quality improvement processes and products in human activity systems. Throughout the course students will practice, from an active perspective, the statistical models of quality engineering; such as statistical process control, analysis of process capabilities, and models for quality improvement.

Along with the development of the previously mentioned abilities, students will also work in a cooperative learning environment. They will exercise their oral, written and graphical communication abilities to discuss and present information related to the concepts learned in this course.

II 513 Statistic Models for Quality Improvement

In this course the student will learn the different concepts and principles of quality engineering, especially those statistical model applied in design, control and improvement of the quality of products and processes with the purpose of generating a conceptual framework of what a methodology for deciding, conducting and analyzing industrial experiments is. Aside from this, the student, with the purpose of making learning meaningful, will be involved in the partial or total application of the tools covered in this class through the use of assignments and projects related to their professional field. Students will learn concepts and fundamental models in the field of design of experiments, using a combination of readings, in-class participation, problem solving and other individual and group assignments. Along with the development of the previously mentioned abilities, students will also work in a cooperative learning environment. They will exercise their oral, written and graphical communication abilities to discuss and present information related to the concepts learned in this course.

II 514 Production Systems

Throughout this course the student will learn the different concepts and models of Production Systems especially the ones related to the efficient transformation of resources into finished goods, with the purpose of developing a conceptual framework of the function of production and the application of the different strategies and models used in the design and operation of the production systems.

Aside from this, the student, with the purpose of making learning meaningful, will be involved in the partial or total application of the tools covered in this class through the use of assignments and projects related to their professional field. Students will learn concepts and fundamental models in the field of Operation and Production Management, using a combination of readings, in-class participation, problem solving and other individual and group assignments. Along with the development of the previously mentioned abilities, students will also work in a cooperative learning environment. They will exercise their oral, written and graphical communication abilities to discuss and present information related to the concepts learned in this course.

II 515 Application of Optimization Models I

The student will apply Deterministic Optimization Models (DOM) to plan and design industrial and human activity systems.

Throughout the course the student will use application software to linear programming to formulate, solve and interpret solutions to resource assignment problems in competition to production programming areas, personnel programming, product mix, distribution logistics of merchandise and products. The student will make a final project consisting of the application of the newly acquired techniques to solve a real-life problem.

II 516 Application of Optimization Models II

The student will apply optimization techniques to problems of a probabilistic nature related to the design, analysis, management, and optimization of human activity systems. More specifically, the student will use the decision-making process which Probabilistic Models of Operations Research (MPIO) have developed to describe and solve such problems as: Decision Analysis, Markovian Chains, waiting lines and inventory models.

NETWORKS AND TELECOMMUNICATIONS

CE 500 Fundamentals of Telecommunications

This course covers the basic topics of electronic communications which are the basis of communication networks. The course begins with the analysis of the different types of electrical signals and how to calculate their content of frequencies which limit the capacity of the communication channel and the bit rate in which a transmission can be broadcasted. Analog Modulation systems are analyzed to serve as a basis for digital transmission systems which derive from them. Aside from digital signals there are other ways of broadcasting such as base band as most Local Area Networks do or in a disperse spectrum for wireless communications. After this, different alternatives to communication networks and the different physical media that are used are analyzed.

CE 501 Network Design and Connectivity

This course has an orientation toward the analysis and design of computer networks as well as their basic aspects and applications. Throughout the class sessions different levels of the OSI reference models are analyzed, mainly focusing on the first three: Physical Level, Data Uplink Level, and Network Level. By analyzing each one of these levels basic theoretical aspects will be covered and aspect of application such as structural wiring at the physical level, protocols of the different implementation networks at the data uplink level, and directing and routing algorithms at the network level, as well as the devices that work at each level will be presented. At the last part of the course the student will analyze different criteria for the characterization of a computer network and its design aspects. At the end of the course the student must characterize and/or design a computer network and propose alternative for its improvement.

CE 502 High Performance Networks

This course is oriented towards the analysis of high capacity computer networks, from transmission speed to distance. The course will firstly cover the fundamental and configuration aspects of TCP/IP which is the main network architecture to date. After this, other high performance architectures will be analyzed such as ATM, FDDI, SONET, and others that develop. For each of these architectures the student will analyze performance aspects, technology required, and applications. In the final part of the course the student will work on how computer networks can offer a guaranteed quality service for the applications which require it.

CE 503 Wireless Networks

This course is oriented towards the analysis and design of wireless telecommunication networks emphasizing in the transfer of data through the IP protocol. The course begins with an overview of the evolution of wireless systems analyzing Cellular Telephony and how it has integrated data communications to these networks. The course analyzes the workings of the TCP/IP architecture in wireless networks which have interference and loss of information. The course will also analyze the architecture of wireless networks, coverage areas of the antennae, traffic modeling and coverage area change aspects. At the end of the course the student must characterize and/or design a computer network and offer alternative for its improvement.

CE 504 Security and Network Environment

This course covers aspects related to computer network security. Security has two parts; one relates to the safety of the information stored or which travel through the network. The other part is related to the physical safety of the equipment which make up the network. To protect the information and access to it symmetrical and non-symmetrical encryption techniques are used, similar to private and public keys. Authentication of users is another aspect of security considered in the course. The establishment of security zones helps organizations guarantee the integrity of its private data, but at the same time allows outside user to utilize the services provided. To complete the security scheme devices which can protect networks and their information will be analyzed. At the end of the course the student must characterize and/or design a computer network and offer alternatives for its improvement.

CE 506 Information and Codification Theory

This course touches on the aspects related to the theory of information, codification of information and data compression. First, discrete and non-discrete random variables are considered analyzing information uncertainty. Later, channels and sources of communication are analyzed to establish their capacities and transfer rate in relation to noise and distortion a message can suffer along the way. The capacity to recover information and the amount of information which can be transferred depend in great deal to the chosen codification, which could be linear codes, cyclic, or convolutional. Along with codification compression of information can be introduced which can be with or without loss according to the chosen rate of compression and the specific application used. Different algorithms are used to test its capacities.

CE 506 Network Service Integration

This course deals with the aspects related to interconnection of networks through telecommunication systems, mainly telephony, and how to integrate other type of services to computer networks, e.g. voice services. Current paradigms when it comes to communication services will be analyzed as well as future expectations. There will be a brief review

of LAN and WAN standards, analyzing the different service alternatives provided by communication companies. The evolution of communication services which increase their capacity and improve their technology continuously will be covered. The course will also cover how to integrate other types of services such as quality, voice, and call centers to the network and how to share remote links among different kinds of applications.

DISTRIBUTED COMPUTER SYSTEMS

CC 500 Architecture and Software Development

In this course the student must first understand the importance of software in society today and in the future, in fact be convinced of it. Later, the student must know and understand current issues in software development and visualize the magnitude and impact in the future. Once the latter is analyzed and discussed, the student must be presented with concepts and principles of software engineering as a branch of computer science which deals with the issue. At the main part of the course the student must know, understand and apply a software development process which must be strongly based on the fundamentals and principles of software engineering and be completely associated with the paradigm of object in all its stages. The computer language modeled will be UML.

CC 501 Networks and Distributed Systems

In this course students will be presented with definitions on operative systems, computer networks and concepts of the client/server model. The participant will make a presentation in a commercial operative environment highlighting its advantages and disadvantages. The student will also learn in detail the steps that must be followed to develop an application which communicates through a computer network, for this assignment programming in JAVA using sockets is required. As a prerequisite to this course the participant must have a working knowledge of OSI, computer network topology, UNIX operative systems, DOS, Windows and C programming language, JAVA or its equivalent.

CC502 Advanced Object-Oriented Programming

This course is focused on the study and application of object-oriented programming. The course contemplates the review of the basic principles of object philosophy and its relation with programming languages which follow this paradigm. Emphasis is made on the design of programs that solve complex problems and at the same time find the right way of implementing them through the design of data structures based on objects. The course considers the use of O-O. programming language (JAVA or C#) and its tools which are used to build a correctly packaged software.

CC 503 Object and Data Systems

The objective of this course is to achieve the integration of database management systems with software developed with object-oriented programming. For this, the student will analyze and work to model data using various data models like ER, EER, and the relational model. The student will also work with RDBMS and on how to integrate these with an object-oriented programming language using interconnection technologies between data and objects. Throughout this course lab practice will be done and the student must do reading, essays, problem-solving, and practice independently. At the end of the course the student will develop an application which involves from the data design and integration of it with an object-oriented language in a network environment.

CC 504 Distributed Systems Design

This course is focused on having the student know, understand and apply distributed software systems design using design patterns based on objects and a distributed computer platform.

The course is divided into four main areas: The first presents the student with a distributed computer platform (J2EE, or .NET). The second deals with the design of distributed software systems. The third deals with the concept of design patterns and the consideration for their use in distributed environments. In the fourth part of the course the student will experiment with the use of a design pattern catalog.

CC 505 Integration of Heterogeneous Systems

This course is oriented towards the application of knowledge in the distributed systems area, the learning, and use of a technology denominated "Web Services". During the class sessions students will analyze the elements and components of this technology and its relationship to the context of interconnection of distributed systems. During this course, students will have lab practice. In the mean time, the student must do readings, and practices independently in order to solve interconnection problems proposed by the instructor. At the end of the course the student must identify an application area for this technology and propose a design for its implementation.

CC 506 Mobile Computing

This course has the characteristics of a seminar in which the student deals with mobile computing. The student must first analyze the technology which supports this kind of computing. Afterwards, the student will analyze and experiment with a programming environment for mobile computing. Finally, students will identify and analyze applications for this model of computing in real-life problems.

MANUFACTURING DESIGN AND PROCESSES

MA 503 Mathematical Models of Mechanical Systems

The objective of this course is to provide the student with methodologies for analysis, modeling, synthesis, and simulation used for the application in the design of mechanical, thermal, Fluid, electrical, electromagnetic and electronic system behaviors. It also requires the application of energy methods and state variables.

The class begins with formulating equations, linear time response systems, the Laplace transformation, computer simulations, cinematic and kinetic mechanisms for dynamic mechanical systems.

MF 503 Experimental Analysis of Mechanical Parts

This course talks about efforts, deformities, and resistance of different mechanical parts subject to single axial loads, biaxial loads, and triaxial loads, and the elastic relationship between effort and deformity, fault theory, and the use of energetic methods for calculating elastic deflection using the Castiglione method and impact load. It also deals with the dimension design of these bodies and the observation by experimental methods of some design parameters and their relationship with experimental patterns such as fragile Lacquer, photo elasticity, and strain gage. It is notorious that the relevance is important since it agglutinates knowledge of design to create methodologies for it comprehensive study and that way bring the student closer to the reality of design. Master's Degree Program student is obligated to take this course by participating in learning activities such as: Analytically Modeling Mechanical Problems, i.e. to make the necessary free body diagrams, calculate conventional effort, unitary deformities, total and specific energies, all this in an analytical way using software such as MAPLE and with a virtual verification with software such as COSMOSM and in very specific cases with experimental methods.

MF 505 Product Prototype Generation

This course is oriented at the different methodologies for product development as well as computer aided component design, design for assembly, and the different techniques to generate quick prototypes.

MF 504 Energetic Design Using CAD-CAE Tools

This course is focused in general tool design and for this reason presentation on the part of the instructor is necessary taking care of the analytical details which cover different energetic methods, for each topic the student will solve typical problems, giving the students the opportunity to solve them at the board. Students will have multiple choice assignments of safety factors to consider, dimensioning, resistance, etc. Students will be able to solve these problems with help of a programming language, electronic sheets, and/or design software, especially in the application of Computer Aided Engineering (CAE), application of the Finite Elements Method (FEM).

Homework assignments will be discussed in class and some will be presented to the class by the student, results will also be discussed in a discussion panel. Some practices will be made to observe the behavior and the hardness of the mechanical elements and how they change in thermal treatment.

MF 506 Materials Engineering

This course is focused on the understanding and knowledge of engineering materials and their behavior when subject to different working conditions, environment, and which are the different processes that allow these products to provide a different level of functionality.

MF 507 Thermo-Fluid Fundamentals

The objective of this course is to introduce the first-year graduate student to the fundamental aspects of fluid mechanics, heat transference and thermodynamics. The emphasis of the course will be on the application of the fundamental principles of these sciences for a practical understanding of the operation of different devices, industrial systems and processes. The focus is centered on efficiency and energy savings of these processes. During class sessions basic theory will be presented and it will be followed by several practical problems.

Throughout the course the student must do independent reading and assignments. At the end of the course the student will present a project applying the basic principles learned in this class.

MF 508 Thermal Systems Design and Application

The objective of this course is to apply the fundamental principles of thermal engineering for the practical understanding of the operation of different device, industrial systems and processes. The emphasis will be made on the understanding of these processes and systems to attain optimal operation and design from the stand point of energy efficiency. During class sessions basic theory will be presented and it will be followed by several practical problems.

Throughout the course the student must do independent reading and assignments. At the end of the course the student will present a project applying the basic principles learned in this class.

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

COMMON CONCENTRATION CORE

DS 500 Society and Environment

This course deals with the interaction of society and its surroundings in the context of an environmental crisis, social and global inequality heightened by the current production-consumption system, population growth rates and deployment of natural resources. Also, ways in which society organizes with the objective of making a difference with the decisions that affect our environment.

DS 501 Pollution

This course covers the general aspects of global environmental decay, its sources, typology, and effects, as well as the main efforts of bi-national collaboration in the matter using a case study on the Mexicali-Imperial Valley border region.

DS 503 Environmental Education

This course presents environmental education as a necessary tool for learning about conservation from multi-disciplinary perception.

DS 504 Sustainable Development

This course considers general aspects of sustainable development from its conceptualization to the revision of programs aimed at attaining sustainability.

MA 500 Research Methodologies

This core course provides the student with the necessary tools to develop the general process of applied research which is centered, specifically, in the development of the protocol of the application project.

AREA OF CONCENTRATION IN ENVIRONMENTAL MANAGEMENT

DS 505 Environmental Management

This course presents in detail the general characteristics of border environmental management. It also describes the procedures for implementing industrial environmental management.

DS 506 Environmental Policy

This course considers, from different perspectives, the environmental policy adopted by the Mexican government in light of an environmental crisis.

DS 507 Environmental Management Systems

This course covers the basic elements for the implementation of an environmental management system as well as the basic tools required to carry it out.

DS 508 Environmental Security Systems

This course offers in an integrated way the necessary tools for prevention and risk assessment of productive processes which must be applied to industries and organizations as well as methods to create a safe working environment. These guidelines must be followed by the industry and organizations in order to be productive and meet international norms.

CONCENTRATION AREA IN ENVIRONMENTAL ENGINEERING

DS 509 Environmental Engineering

This course offers knowledge of methods, techniques and instruments which are adequate for solving environmental problems in the framework of environmental engineering, concerning water, air and noise as well as a brief introduction to solid waste management.

DS 510 Quality Environmental Models

This course provides the student with an integrated vision for concepts, tools, and methods necessary for the control and management of quality in productive processes focused on a clean production.

DS 511 Environmental Impact

The objective of this course is to provide the necessary tools for the student to support the decision making process on the impact that could be produced as a consequence of a productive project.

DS 512 Integral Residue Management

This course provides knowledge of methods, techniques and proper instruments for the integral management of solid residues in the framework of environmental engineering, it also provides successful experiences to implement practical solutions.

CONCENTRATION AREA IN SUSTAINABLE DEVELOPMENT

DS 513 Sustainability Indicators

This course provides a general overview of the different international proposals for the development of environmental performance indicators and results of the Mexican case are analyzed.

DS 514 Environmental Economy

This course provides the student with a vision of how environmental are faced in industrialized countries. Parting from economic theory basic ideas are presented on the sustainable management and exploitation of available natural resources.

DS515 Environmental Project Assessment

This course deals with environmental assessment taken to area of projects and also policy, plans and development programs for optimal decision making from an environmental standpoint.

DS 516 Globalization and Environment

This course provides a general overview on globalization and its implications to the environment displaying some of its main challenges.

HUMANITIES COLLEGE

BACHELOR OF ARTS	Ensenada	Mexicali	Tijuana
BACHELOR OF ARTS IN PSYCHOLOGY			
• Clinical		☀	☀
• Educational		☀	☀
• Organizationall		☀	☀
• Child		☀	☀
Bachelor of Arts in Education Science			☀

GRADUATE STUDIES	Ensenada	Mexicali	Tijuana
Master's Degree in Psychology with concentration in: Clinical, Family Therapy, Special Education, and Criminology.		•	•
Master's Degree in Education with concentration in: Legal Culture, Special Education, and Organizational Development.		•	•
Master's Degree in Criminology	•	•	•

Ma. del Carmen Echeverría del Valle

College of Humanities Dean
TELÉPHONE: 52 (686) 567 3700 **EXTENSIÓN:**
 email: echeverria@cetys.mx

Patricia Saracho

Director of the Psychology School
 MEXICALI CAMPUS
PHONE:
EXTENSION:
 e-mail: patricia.saracho@cetys.mx

Cecilia Contreras

Coordinator of the College of Humanities
 MEXICALI CAMPUS
PHONE:
 e-mail: cecilia.contreras@cetys.mx

José Guadalupe Hernández

Director of the Psychology School
 TIJUANA CAMPUS
PHONE:
 email: jhernan@cetys.net

José Luis Bonilla

Coordinator of the College of Humanities
 TIJUANA CAMPUS
PHONE:
 e-mail: jbonilla@cetys.net

PSYCHOLOGY

Course ID	Course	Class Hours	Lab Hours	Units	LPC	LPE	LPO	LPI
1ST SEMESTER								
CS400	ADVANCED COMMUNICATION IN SPANISH	4	0	8	X	X	X	X
CS401	THINKING SKILLS	4	0	8	X	X	X	X
HU400	MAN AND ENVIRONMENT	4	0	8	X	X	X	X
PB400	PSYCHOBIOLOGY	4	0	8	X	X	X	X
PG400	HUMAN PROCESSES	4	0	8	X	X	X	
PB404	CHILD PSYCHOLOGY I	4	0	8				X
2nd SEMESTER								
HU401	MAN, HISTORY AND SOCIETY	4	0	8	X	X	X	X
CS402	RESEARCH METHODOLOGY	4	0	8	X	X	X	X
CS403	CULTURE I	2	0	4	X	X	X	X
PG407	THEORY OF PERSONALITY	4	0	8	X	X	X	
PB401	PSYCHOLOGICAL DEVELOPMENT	4	0	8	X	X	X	
PS400	SOCIAL DEVELOPMENT	4	0	8	X	X	X	
PG401	PSYCHOLOGICAL THEORIES	4	0	8				X
PB407	CHILD DEVELOPMENT II	4	0	8				X
PS410	CHILD'S SOCIALIZATION AND AFFECTIVENESS I	4	0	8				X
3RD SEMESTER								
ID400	ADVANCED COMMUNICATION IN ENGLISH	4	0	8	X	X	X	X
CS404	CULTURE II	2	0	4	X	X	X	X
MA415	SOCIAL SCIENCE STATISTICS	4	0	8	X	X	X	X
AC404	PREVENTION STRATEGIES	4	0	8	X	X	X	
EV404	PSYCHOLOGICAL INTERVIEW	4	0	8	X	X	X	
PG408	PSYCHOPATHOLOGY	4	0	8	X	X	X	
EV400	PSYCHOLOGY ASSESSMENT TECHNIQUES	4	0	8				X
PB405	PHYSICAL AND MOTOR DEVELOPMENT I	4	0	8				X
PB403	CHILD SEXUAL DEVELOPMENT	4	0	8				X

Course ID	Course	Class Hours	Lab Hours	Units	LPC	LPE	LPO	LPI
5th SEMESTER								
EC400	GLOBALIZATION AND ECONOMICAL DEVELOPMENT	4	0	8	X	X	X	X
PG404	CRIMINOLOGICAL PSYCHOLOGY	4	0	8	X	X	X	
EV401	PSYCHOLOGICAL ASSESSMENT INSTRUMENTS II	4	0	8	X	X	X	
AC406	BRIEF THERAPY	4	0	8	X			
VI421	SUPERVISED PRACTICUM IN ADDICTIONS PREVENTION AND TREATMENT	4	0	8	X			
PB409	NEUROPSYCHOLOGY	4	0	8		X		
VI426	ASSESSMENT AND CURRICULAR DESIGN SUPERVISED PRACTICUM	0	8	8		X		
RI413	LABOR PSYCHOLOGY ASSISTANCE	0	0	8			X	
VI431	HUMAN RESOURCE SUPERVISED PRACTICUM	4	8	8			X	
AE407	CHILDREN IN RISKY SITUATIONS	4	0	8				X
EV402	PSYCHOLOGICAL ASSESSMENT INSTRUMENTS II	4	0	8				X
AC401	HUMANIST INTERVENTION	4	0	8				X
VI416	CHILD PSYCHOLOGY PRACTICUM II	4	0	8				X
6th SEMESTER								
HU402	MAN AND ETHICS	4	0	8	X	X	X	
PS401	GROUP FACILITATION	4	0	8	X	X	X	
EV402	PSYCHOLOGICAL ASSESSMENT INSTRUMENTS II	4	0	8	X	X	X	
AC400	COGNITIVE-BEHAVIOR INTERVENTION	4	0	8	X	X	X	
VI422	SUPERVISED PRACTICUM IN INDIVIDUAL THERAPY	4	0	8	X			
VI427	SUPERVISED PRACTICUM IN EDUCATION ORIENTATION	0	8	8		X		
VI432	SUPERVISED PRACTICUM IN PERSONNEL RECRUITMENT AND SELECTION	0	8	8			X	
AE402	SPECIAL EDUCATION NEEDS	4	0	8				X
PG406	CHILD PSYCHOPATHOLOGY	4	0	8				X
EV403	DIAGNOSTIC INTEGRATION	4	0	8				X
AC402	PSYCHODYNAMIC INTERVENTION	4	0	8				X
VI417	CHILD PSYCHOLOGY PRACTICUM III	4	0	8				X
7th SEMESTER								
AC405	FAMILY ORIENTATION	4	0	8	X	X	X	
EV405	PSYCHOLOGICAL INTEGRATION STUDIES	4	0	8	X	X	X	
AC401	HUMANIST INTERVENTION	4	0	8	X	X	X	
VI423	SUPERVISED PRACTICUM IN GROUP THERAPY	4	0	8	X			
	ELECTIVE I	4	0	8	X	X	X	X
VI428	SUPERVISED PRACTICUM IN LEARNING DISABILITY	0	8	8		X		
VI433	SUPERVISED PRACTICUM IN ORGANIZATIONAL DEVELOPMENT	0	8	8			X	
AC411	CHILD BEHAVIOR PROBLEMS	4	0	8				X
AC403	INTERVENTION DESIGN	4	0	8				X
AC404	PREVENTIVE STRATEGIES	4	0	8				X

LP PSYCHOLOGY

FIRST SEMESTER

CS401 Thinking Skills (C, E, O, Ch)

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

CS400 Advanced Communication in Spanish (C, E, O, Ch)

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

HU400 Man and Environment (C, E, O, Ch)

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

PB400 Biopsychology (C, E, O, Ch)

This course is centered on the study of biological mechanisms of behavior making emphasis on the evolution, genetics and adaptable quality of behavioral processes. It is the study of man emotional, affective and cognitive processes from a biological perspective.

It is the biological property that allows organisms to reestablish an active relationship with the environment. Thus, Biopsychology's objective is to show the processes and biological systems involved in behavior and in which way natural selection has conformed these systems and processes as well as behavior itself, contributing to the evolution of varied behavioral repertoires in human beings.

This course approach is oriented to learning-centered education.

PRE-REQUISIT:

PG400 Human Processes (C, E, O)

This course includes those processes that characterize human beings both individually as collectively: self-esteem, communication, leadership, decision making, conflict management, teamwork, assertiveness and emotional intelligence. It is designed with a workshop modality in such way that conceptual and practical aspects are included.

To successfully complete this course, it is necessary that students have willingness towards a personal development, personal experience sharing and to have analysis and synthesis skills.

PRE-REQUISIT:

PB404 Child Development I (Ch)

The contents of this academic activity integrate basic information that will be increased with the study of other courses in the program in such way that students will have the basis to apply their knowledge in a systematic way in a future teaching practice. Such is the case of Pre-School Education Purposes and Contents, where students will be able to identify the purposes and contents of this educational level, starting from the clear and precise knowledge of the characteristics of pre-school children.

PRE-REQUISIT:

SECOND SEMESTER

HU401 Man and Society (C, E, O, Ch)

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes mankind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

LP PSYCHOLOGY

CS402 Research Methodology (C, E, O, Ch)

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

PG407 Theory of Personality (C, E, O)

The academic activity of Psychological Theories covers the evolution psychology has had throughout history in a historical and cultural context of the different stages this science has gone through.

During the first part the history of psychology will be revised until its creation as a formal discipline in the late XIX Century.

To successfully complete this academic activity, it is desirable that students possess skills to analyze and synthesize information, as well as to establish relationships among different kinds of information.

PRE-REQUISIT:

PB401 Psychological Development (C, E, O)

This course includes the processes of human development, birth, early childhood, intermediate childhood, adolescence, youth, maturity, old age and death.

This course is described as a base line to cover different psychotherapies in children, adolescents and adults since it contains topics of biopsychosocial development.

PRE-REQUISIT:

PS400 Social Development (C, E, O)

This course includes the revisions of theoretical-practical aspects and legal foundations related to social development, from fundamental concepts to social intervention. Designed under the scheme of learner-centered education it is necessary that students have an active role during the course through independent activities, either individual or in groups. For a better performance it is convenient that students have the willingness to visit government departments, civil society organizations and deprived areas.

PRE-REQUISIT:

PG401 Psychological Theories (Ch)

This course covers historical aspects of psychology's development as a science, as well as the main psychological theories. It is a learner-centered course that uses electronic media.

PRE-REQUISIT:

PB407 Child Development II (Ch)

This course is a follow-up to Psychological Development I, therefore it is a numbered course. Here human development from 6 to 18 years of age is revised, seeking for the understanding of the changes experienced in this process and the psychological implications they have. For a Child Psychologist the knowledge on human development is the framework to analyze, evaluate and design actions that allow them to intervene in situations in which his professional participation is required.

PRE-REQUISIT:

PS410 Child socialization and Affection (Ch)

This course implies the knowledge and management prior to children psychological development in general, and the family vital cycle.

Students will understand the process through which a child grows and develops his personality and affection in the primary fundamental experience he has in a family and with his immediate surrounding, considering his context and distinctive individual characteristics, as well as the effects his parents, siblings and upbringings have on this socialization process.

This course is designed on a learner-centered approach, therefore it is necessary that students have a predominantly active role in the course, through individual or group activities. It is also important to bear in mind that this is the first course on these topics. The second part will be given in fourth semester.

PRE-REQUISIT:

LP PSYCHOLOGY

THIRD SEMESTER

ID400 Advanced Communication in English (C, E, O, Ch)

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well as a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

CS404 Culture II (C, E, O, Ch)

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments.

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression.

PRE-REQUISIT: CS403 Culture I

MA415 Statistics for Social Sciences (C, E, O, Ch)

This course covers the behavioral and theoretical aspects of quantification, as well as the statistical processes applicable to behavioral sciences. This is a course designed under the learning centered model and the electronic learning scheme that will require the active participation of students to carry out the different exercises.

PRE-REQUISIT:

AC404 Preventive Strategies (C, E, O)

This course covers the concepts related to health that are founded on prevention strategies, as well as the different strategies for health promotion, health education and communication in health. This is a course designed under the learner-centered model and the electronic learning scheme, therefore students' active participation is required, as well as Internet skills, particularly the use of Blackboard Learning System ML.

PRE-REQUISIT:

EV404 Psychological Interview (C, E, O)

Psychological evaluation is one of the first steps to follow in all psychological intervention. Thus, it is important that students acquire the skills to pose practical problems in a professional way, and decide which information they need and choose the best way to collect it.

The objective of this course of Psychological Evaluation Techniques is that students acquire the necessary tools to successfully carry out interviews in clinical, educational and organizational environments, as well as to design and apply observations and self-information tools.

PRE-REQUISIT:

PG408 Psychopathology (C, E, O)

This course is characterized for carrying out a revision of the concepts of symptomatology, incidence among other elements of the different psychological disorders, according to DSM – IV TR. It is important to consider that this course was designed as learner-centered, therefore it is necessary that students have an active role through independent activities, either individually or in groups.

PRE-REQUISIT:

LP PSYCHOLOGY

EV400 Psychological Evaluation Techniques (Ch)

Psychological evaluation is one of the first steps to follow in all psychological intervention. Thus, it is important that students acquire the skills to pose practical problems in a professional way, and decide which information they need and choose the best way to collect it.

The objective of this course of Psychological Evaluation Techniques is that students acquire the necessary tools to successfully carry out interviews in clinical, educational and organizational environments, as well as to design and apply observations and self-information tools.

PRE-REQUISIT:

PB405 Physical and Psychomotor Development I (Ch)

In Physical and Psychomotor Development I, students will study aspects related to children's brain development during their first years and its relationship with growth processes, physical development and acquisition of basic motor abilities. They will identify some patterns related to weight, size and body constitution, that allow them to explain the most important physical changes during childhood and the individual variations that occur in this development stage. They will also know the fundamental aspects that allow them to understand children's motor development: the sensor-perceptive process, the motor-perceptive development, the progressive acquisition and evolution of the basic movement patterns (movement, jumps, spins and manipulations), as well as the motor basic abilities during their first years of life.

It is important to consider that this course was designed as learner-centered, therefore it is necessary that students have and active role through independent activities, either individually or in groups.

PRE-REQUISIT:

PB403 Children Sexual Development (Ch)

This course has a seminar modality and is oriented towards the revision of children sexuality, its development and the repercussions it has in human adult life. It is recommendable that students have knowledge on the process and development of Child sexuality and of their own sexuality, with the aim of achieving a respect and comprehension attitude towards sexuality.

PRE-REQUISIT:

FOURTH SEMESTER

AC403 Interventions Design (C, E, O)

This course includes the elaboration of psychological treatment plans in work, children, educational and clinical areas. The elaboration process is based on the work of Arthur E. Jongsma Jr. and his collaborators (1995). Students will have to become familiar with the necessary strategies in the elaboration of treatment plans as indicated in each of the corresponding texts in each of the specialization areas. This course was designed as learner-centered, therefore it is necessary that students have and active role through independent activities, either individually or in groups.

PRE-REQUISIT:

PS406 Social-Community Psychology (C, E, O)

In this course students are introduced to the study of social-community psychology, which is conceptualized as an approach of psychology that uses concepts of varied theoretical-methodological approximations in social and behavioral sciences and as a research and intervention area in different social analysis levels (individual, family, small group, organization, community).

This course provides a general vision of social-community psychology making emphasis on those aspects that are relevant to the planning, implementation and evaluation of intervention projects in diverse community contexts.

The course also presents a general view of theories on community processes and their research. Emphasis will be made on an ecological orientation of systems as well as their use to conceptualize and define community problems, their possible solutions and the consequences of the latter.

PRE-REQUISIT:

PB402 Human Sexuality (C, E, O)

Sexual education and scientific knowledge that conforms it are necessary to the correct formation of all professionals, but are imperative on professionals specialized on human health, such as psychology.

PRE-REQUISIT:

CS406 Social Research (C, E, O)

This course revises research ethical aspects, measurement and evaluation, diverse research designs applicable in the social area, as well as the instrument elaboration process. This course was designed as learner-centered, therefore it is necessary that students have and active participation in teamwork. This course is related to statistics for social sciences and research methodology.

PRE-REQUISIT:

LP PSYCHOLOGY

VI420 Supervised Practicum in Domestic Violence Prevention and Treatment (C)

This course includes the topics and/or factors related to addictions; individual, family and social variables implied in any addiction are described. It also covers the attention models in the three modalities of psychotherapy (individual, family and group) and the prevention strategies for different populations.

It is designed with a workshop methodology in such way that it includes conceptual and practical aspects.

To successfully complete this course it is imperative that students have willingness towards a professional development and to carry out field and research practicum.

PRE-REQUISIT:

VI425 Supervised Practicum in Learning Facilitation (E)

This course revises the teaching strategies for the achievement of a meaningful learning, educational motivation and its aspects in learning, the interpersonal nature of learning, the meaning of learning to learn and performance assessment. The theoretical aspects will be covered in the weekly sessions under the instructor supervisions.

In this course, all students previously assigned practicum within the institution will be of great importance, also each student will develop a project to work on with instructors and classmates.

PRE-REQUISIT:

VI430 Supervised Practicum in Organizational Communication (O)

To research the impact that individuals, groups and structures have on the behavior within organizations, with the final purpose of applying this knowledge on the improvement of the organization's effectiveness.

PRE-REQUISIT:

VI415 Practicum in Child Psychology I (Ch)

This 4th semester course is divided in 50% practicum and 50% theory. It includes the first human development processes, birth, early childhood, intermediate childhood and adolescence. To successfully complete this course it is required that students have prior knowledge on the first stages of Human Development.

This course contents are described as the theoretical-practical basis for future Child psychologists since this is the moment in which students start receiving direct supervising and tutoring on their first field practicum.

This is a practical course since it combines the theoretical contents with two hours of fieldwork a week. Furthermore, this course is related to the supervised practicum.

The course is closely related to Child Development I from First Semester, and Child Socialization and Affection from second semester.

In this course students will develop skills to interact with children that go to daycare and early stimulation centers. They will be able to carry out controlled observations and behavioral records in children.

The course requires that students design an intervention project that will be included in the program developed in the assigned institution.

PRE-REQUISIT:

PB412 Child Socialization and Affection II (Ch)

This course intends the acquisition of theoretical bases and experiences related to children and adolescents socialization and affection. It is a complement to Child Socialization and Affection I.

Its importance relies on the fact that students will identify the variables that intervene in the adequate socialization of children and adolescents.

PRE-REQUISIT:

PB408 Physical and Psychomotor Development II (Ch)

In this second course of Physical and Psychomotor Development students will analyze the development of motor abilities and the healthcare of preschool and elementary school children. This analysis will allow them to carry out pedagogical intervention designs to provide attention to children's motor needs.

PRE-REQUISIT:

EV401 Psychological Evaluation Instruments I (Ch)

This course covers the use of psychometric and projective tests to carry out personality, intelligence and neuropsychological evaluations. It is a theoretical-practical course in which students will develop skills to apply, assess and interpret diagnosis tests and instruments as well as the elaboration of the corresponding reports.

PRE-REQUISITO:

AC400 Cognitive Behavioral Intervention (Ch)

This course covers the basic elements for the management of cognitive-behavioral strategies in clinical, organizational and educational scenarios. It is a theoretical-practical course that includes ethical aspects applicable in interventions, as well as the diverse cognitive-behavioral strategies, including evaluation and treatment techniques. On the other hand, this course is related to all those previous courses that have to do with therapeutic processes. To complete the course it is required that students have willingness and basic observation and analysis as well as data systemization skills.

PRE-REQUISIT:

LP PSYCHOLOGY

FIFTH SEMESTER

EC400 Globalization and Economic Development (C, E, O, Ch)

This is one of the first courses that conform the life formation area, and as such, pretends that students achieve a general vision of cultural, technological, political, social and economical aspects that allow them to have a basis to interpret the global world and its transformation since the 1980's

PRE-REQUISIT:

PG404 Criminological Psychology (C, E, O)

This course implies the knowledge and previous management of psychometric, intelligence and projective tests to make diagnosis and elaborate the corresponding reports and the knowledge of the different psychopathological disorders. Students will analyze the origin of criminal behavior. The internal and external factors that influence this behavior, they will know the victim's personality and his relationship with the victimizer and also they will have the opportunity to know what readapting a criminal is, as well as ways to prevent crime.

PRE-REQUISIT:

EV401 Psychological Evaluation Instruments I (C, E, O)

This course covers the use of psychometric and projective tests to carry out personality, intelligence and neuropsychological evaluations. It is a theoretical-practical course in which student will develop skills to apply, assess and interpret diagnosis tests and instruments as well as the elaboration of the corresponding reports.

PRE-REQUISIT:

AC406 Brief Therapy (C)

This is a theoretical-practical course whose objective is to have students analyze the main theories on child therapy and their derived techniques and to use some of these techniques in a supervised case.

It is a course from educational psychology included in the eighth semester of the curriculum with the aim of helping students to use the tools acquired in the courses of psychological development, evaluation and diagnosis and to be able to use them in the design of the therapeutic process.

PRE-REQUISIT:

VI421 Supervised Practicum in Addictions Prevention and Treatment (C)

This course includes the topics and/or factors related to addictions; individual, family and social variables implied in any addiction are described. It also covers the attention models in psychotherapy three modalities (individual, family and group) and the prevention strategies for different populations.

It is designed with a workshop methodology in such way that it includes conceptual and practical aspects.

To successfully complete this course it is imperative that students have willingness towards a professional development and to carry out field and research practicum.

PRE-REQUISIT:

PB409 Neuropsychology (E)

This academic activity covers the revision of human beings neurological organization, as well as the neurological fundamentals for learning.

PRE-REQUISIT:

VI426 Supervised Practicum of Curriculum Assessment and Design (E)

This course covers the theoretical aspects of the curriculum definition, composition and development. It also covers the processes for the elaboration of curriculum, study plan and course program, the purposes and function of assessment and the theoretical perspectives.

PRE-REQUISIT:

RI413 Labor Psychological Assistance (O)

Since in organizations the most important factor is the human factor that spends a great amount of hours inside the facilities, the physical environment demands adaptation, as well as privacy, relationships with the authority and coworkers besides the fact that work can sometimes be impersonal. All of this has an influence and sometimes causes crises that require different approaches to confront them and prevent them.

PRE-REQUISITO:

VI431 Supervised Practicum in Human Resources (O)

This course comprehends the concepts and techniques for the management and good performance of the staff that works in an organization.

PRE-REQUISIT:

LP PSYCHOLOGY

AE407 Children at Risk Situations (Ch)

In Children at Risk Situations students will analyze the social, family and school factors that when converge in an adverse way seriously affect children's development. This analysis will allow them to recognize that timely and effective psychological intervention can help children at risk situations to have the possibility of achieving a balanced and healthy development. This course will be managed under the learner-centered educational model, therefore it is imperative that students actively participate throughout the semester.

PRE-REQUISIT:

EV402 Psychological Evaluation Instruments I (Ch)

This course covers the aspects related to personality multifactor tests, standardized proofs are presented, multiphasic inventories, projective and complementation proofs, drawing, evaluations through games and other special evaluation techniques. Application, evaluation and tests integration are also covered.

This is a theoretical-practical course, since the beginning students must apply psychological tests to the assigned population depending on their specialization.

In general, this course requires of a good level of analysis and data integration skills from students during the results evaluation and integration process.

PRE-REQUISIT:

AC401 Humanistic Intervention (Ch)

This course covers the aspects related to Humanistic Intervention which is based on a "growth atmosphere" according to the client's expectations. This is a learner-centered course.

PRE-REQUISIT:

VI416 Practicum in Child Psychology II (Ch)

This course includes the topics and/or factors related to risk situations, support resources as well as the merge of implied factors in vulnerable children. It covers the attention models in psychotherapy and the intervention strategies for children population.

It is designed with a workshop modality and it includes conceptual and practical aspects.

To successfully complete this course it is necessary that students have the willingness to a professional development and to carry out field practicum in community and/or educational institutions where they can apply different psychological intervention techniques.

PRE-REQUISIT:

SIXTH SEMESTER

HU402 Mankind and Ethics (C, E, O)

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISITO:

PS401 Group Facilitation (C, E, O)

Group facilitation is a skill that, as any other, requires practice in order to be enhanced. This course comprehends a revision of the most important processes given in a group with the objective of helping the facilitator recognize them and manage them during the facilitation process.

There is not a single way to facilitate groups, therefore a detailed revision of the different theoretical approaches to carry out this task will be revised.

PRE-REQUISIT:

EV402 Psychological Evaluation Instruments II (C, E, O)

This course covers the aspects related to personality multifactor tests, standardized proofs are presented, multiphasic inventories, projective and complementation proofs, drawing, evaluations through games and other special evaluation techniques. Application, evaluation and tests integration are also covered.

This is a theoretical-practical course, since the beginning students must apply psychological tests to the assigned population depending on their specialization.

In general, this course require of a good level of analysis and data integration from students during the results evaluation and integration process.

PRE-REQUISITO:

LP PSYCHOLOGY

AC400 Cognitive Behavioral Intervention (C, E, O)

This course covers the basic elements for the management of cognitive-behavioral strategies in clinical, organizational and educational scenarios. It is a theoretical-practical course that includes ethical aspects applicable in intervention, as well as the diverse cognitive-behavioral strategies, including evaluation and treatment techniques. On the other hand this course is related to all those previous courses that have to do with therapeutic processes. To complete the course it is required that students have willingness and basic observation and analysis skills as well as data systemization.

PRE-REQUISIT:

VI422 Supervised Practicum in Individual Therapy (C)

In this course students will apply the principles and basic concepts of the selected individual therapeutic process (e. g. psychodynamic, person centered, etc.) based on the initial interview, diagnostic formulation and the elaborated plan for the treatment of the problem the patient presents.

PRE-REQUISIT:

VI427 Supervised Practicum in Educational Orientation (E)

This course covers the aspects related to the educational orientation process from the psychological intervention point of view that it requires. Different types of orientations that can be present in psychology are analyzed. Each type of orientation presents particular intervention characteristics as well as a baseline from which all emerge, in such way that in this course these interventions are studied.

To successfully complete this course basic knowledge on psychological theories, psychological evaluation instruments and techniques, diagnostic integration and group facilitation is required.

This is a fundamental course in the Educational Psychology area of specialization and it is of a required and practical nature.

The importance it bears in CETYS University Psychology programs is of terminal formation since it provides specialized knowledge in this particular field.

PRE-REQUISIT:

VI432 Supervised Practicum in Personnel Selection and Recruitment (O)

This course belongs in the practical formation area, and as such, it is designed for students to apply different personnel selection and recruitment techniques.

PRE-REQUISIT:

AE402 Special Educational Needs (Ch)

This course covers conceptual aspect and the ethical-legal framework of special educational needs, as well as strategies for its attention in the classroom. This is a course designed under the learner centered model and the electronic learning scheme, therefore students' active participation is required, as well as Internet skills, particularly the use of Blackboard Learning System ML.

PRE-REQUISIT:

PG406 Child Psychopathology (Ch)

This course is distributed as follows: 25% practicum and 75% theory. It includes a wide global vision of child psychopathology, the concepts of normal and pathological in children, origins and theories of development problems, child depression and the use of DSM IV-TR to diagnose problems in children.

This course contents are described as the theoretical-practical basis for symptom detection, first diagnosis elaboration, the establishing of adequate treatment plans, the use of therapeutic strategies and techniques, the design of recovery prognosis and the use of DSM IV-TR in children.

During this course development there will be a direct connection with student's field practicum, so they can work with real cases to be analyzed in plenaries scheduled by the instructor. This is a base course that is deeply related to children's bio-psychosocial development.

Through an interview with a child, students will develop abilities to detect abnormal and/or pathological symptoms and will be able to elaborate a diagnosis. Guided by the instructor, they will design intervention plans as the case may be.

PRE-REQUISIT:

EV403 Diagnostic Integration (Ch)

This course is the culmination of the courses destined to the evaluation and diagnosis in the child, educational, clinical and organizational scenarios. Therefore the participation of expert psychologists in each of these areas is of vital importance. For this course optimal development it is necessary that students have time to carry out activities out of the classroom and to create a connection with the supervised practicum.

This course methodology combines the theoretical part with practicum and daily exercises to make it a workshop within learner-centered education.

PRE-REQUISITO: EV400 Psychological Evaluation Techniques; EV401 Psychological Evaluation Instruments I; EV402 Psychological Evaluation Instruments II

LP PSYCHOLOGY

AC402 Psychodynamic Intervention (Ch)

This course's objective is that students understand psychoanalysis most important concepts, its main contributions and its therapeutic intervention model. It is expected that students develop the ability of analytical listening and that they carry out interventions with patients applying the theoretical elements learned in class.

In its first part this course will function as a seminar where the most important Freudian texts will be discussed, rescuing their key concepts, in its second part a clinical case with a patient will be developed. Readings and case elaboration will be out of class assignments.

PRE-REQUISITO:

VI417 Practicum in Child Psychology III (Ch)

This academic activity provides student with the opportunity to apply intervention strategies in special educational needs, under supervision in natural settings.

PRE-REQUISIT:

SEVENTH SEMESTER

AC405 Family Orientation (C, E, O)

Family Orientation offers an approached centered in the general theory of systems, the concepts referred to are based on the communication theory, cybernetics and family structure. It also makes reference to schools evolution process and models.

The family orientation model in this course focuses on all the family as an organizational-relational system formed by subsystems that will have to be organized and coordinated in such a way that they can function effectively.

PRE-REQUISIT:

EV405 Integration of Psychological Studies (C, E, O)

This academic activity comprehends the integration process of psychological studies including the relevant data of the interview, medical history, evaluation instruments and the elaboration of the report. It also includes the revisions of ethical aspects in psychological evaluation.

PRE-REQUISIT:

AC401 Humanistic Intervention (C, E, O)

This course covers the aspects related to Humanistic Intervention which is based on a "growth atmosphere" according to the client's expectations. This is a learner-centered course.

PRE-REQUISIT:

VI423 Supervised Practicum in Group Therapy (C)

In this course student will apply the basic principles and concepts of the therapeutic process in focus group, based on the selected approach (psychodynamic, person centered, Gestalt, Cognitive-Behavioral, etc.) according to the initial interview, diagnostic formulation and the elaborated plan for the treatment of the patient's problem.

PRE-REQUISIT:

VI428 Supervised Practicum in Learning Disabilities (E)

This course covers learning conceptual aspects such as communication and attention deficit disorders. The Supervised Practicum program is postulated as a model intended to reach knowledge through practical activities.

PRE-REQUISIT:

VI433 Supervised Practicum in Organizational Development (O)

This course's objective is to keep a clear and precise vision of the concepts that constitute organizational development as an option to confront changes in organizations.

PRE-REQUISIT:

AC411 Child Behavior Problems (Ch)

This academic activity is oriented towards the development of professional competencies for the treatment of diverse child behavior problems, essentially at school, including planning, assessment and intervention processes.

PRE-REQUISIT:

LP PSYCHOLOGY

VI431 Practicum in Child Psychology (Ch)

This academic activity provides students with the opportunity to apply supervised intervention strategies in child behavior problems in natural scenarios.

PRE-REQUISIT:

Elective I (C, E, O, Ch)

PRE-REQUISIT:

AC403 Interventions Design (Ch)

This course includes the elaboration of psychological treatment plans in work, children, educational and clinical areas. The elaboration process is based on the work of Arthur E. Jongsma Jr. and his collaborators (1995). Students will have to become familiar with the necessary strategies in the elaboration of treatment plans as indicated in each of the corresponding texts in each of the specialization areas. This course was designed as learner-centered, therefore it is necessary that students have an active role through independent activities, either individually or in groups.

PRE-REQUISIT:

AC404 Preventive Strategies (Ch)

This course covers the concepts related to health that are founded in prevention strategies, as well as the different strategies for health promotion, health education and communication in health. This is a course designed under the learner-centered model and the electronic learning scheme, therefore students' active participation is required, as well as Internet skills, particularly the use of Blackboard Learning System ML.

PRE-REQUISIT:

EIGHTH SEMESTER

PG405 Gerontological Psychology (C, E, O)

Nowadays, progress in science has achieved the prolongation of life expectancy in human beings, making old age a longer developmental stage. Therefore, individuals hope that death could be deferred having as a consequence a decrease in the possibility of growing old with dignity and a good life quality especially in the psychological and social areas.

The course covers topics such as: aging and genre, the psychological processes of aging, mental health and aging, organic disorders of aging, psychological evaluation of seniors, gerontological report and a gerontological intervention model.

PRE-REQUISIT:

AE400 Educational Technology (C, E, O)

In this course the theoretical aspects of the relationship between technology and education are revised, as well as the specific applications of educational technology. This is a course designed under the learner centered model and the electronic learning scheme, and in order to have a better performance team work and Internet skills, particularly the use of Blackboard Learning System ML are required.

PRE-REQUISIT:

AC402 Psychodynamic Intervention (C, E, O)

This course's objective is that students understand psychoanalysis most important concepts, its main contributions and its therapeutic intervention model. It is expected that students develop the ability of analytical listening and that they carry out interventions with patients applying the theoretical elements learned in class.

In its first part this course will function as a seminar where the most important Freudian texts will be discussed, rescuing their key concepts, in its second part a clinical case with a patient will be developed. Readings and case elaboration will be out of class assignments.

PRE-REQUISIT:

VI424 Supervised Practicum in Family Therapy (C)

In this course students will apply the principles and basic concepts of the systemic family therapeutic process, according to the selected modality (Strategic family therapy, Family therapy with the family of origin, psychodynamic family therapy, etc.).

PRE-REQUISIT:

VI429 Supervised Practicum in Educational Integration (E)

This course covers the conceptual aspects of disabilities, as well as legal framework and types of learning problems. It is a learner-centered course since students will base their information on constant research. Theoretical aspect will be revised in weekly sessions under the instructor's conduction. The emphasis of the course will be on the practicum carried out in an institution assigned by the school, in which students will develop a project previously authorized by the instructor.

PRE-REQUISIT:

VI434 Supervised Practicum in Training and Development (O)

Since the primary goal of training is to contribute to the company's global goals, it is imperative to develop programs that contemplate the organizational goals and strategies. Unfortunately, many organizations can never accomplish the connection between strategic objectives and training programs. The main promoters of training programs are: trends, whims, "anything that competitors do", instead. As a result a big part of the investment is misused because training programs are poorly directed, poorly designed and poorly assessed.

To make sure that investment in training and development has a maximum impact on individual and organizational performance, it is imperative to use a systemic approach on training. This approach comprehends four stages: 1. Evaluation of necessities, 2. Design of programs, 3. Instrumentation, and 4. Assessment.

PRE-REQUISIT:

HU402 Mankind and Ethics (Ch)

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

AC405 Family Orientation (Ch)

Family Orientation offers an approach centered in the general theory of systems, the concepts referred to are based on the communication theory, cybernetics and family structure. It also makes reference to schools evolution process and f models. The family orientation model in this course focuses on all the family as an organizational-relational system formed by subsystems that will have to be organized and coordinated in such a way that they can function effectively.

PRE-REQUISIT:

AC412 Brief Child Therapy (Ch)

This academic activity includes the application of brief therapy through assessment, diagnosis, planning and intervention processes in childhood and adolescence disorders, at an individual or group level.

PRE-REQUISIT:

VI419 Practicum in Child Psychology (Ch)

In this academic activity student will have the opportunity to apply therapeutic intervention strategies with children, and adolescents in natural scenarios, under supervision.

PRE-REQUISIT:

Elective II (Ch)

PRE-REQUISIT:

LCE EDUCATION SCIENCE

Course ID	Course	Class Hours	Lab Hours	Units	Course ID	Course	Class Hours	Lab Hours	Units
1ST SEMESTER					5th SEMESTER				
	CONTEMPORARY EDUCATION AND ITS PURPOSES	4	0	8		PARADIGMS OF EDUCATIONAL RESEARCH GLOBALIZATION AND ECONOMICAL DEVELOPMENT	4	0	8
	ADVANCED COMMUNICATION IN SPANISH	4	0	8		SOCIOLOGY OF EDUCATION II CURRICULUM AND LEARNING FACILITATION	4	0	8
	INFORMATION MANAGEMENT	4	0	8		EDUCATION AND VALUES	4	0	8
	PHILOSOPHY OF EDUCATION I	4	0	8		ELECTIVE I	20	0	40
	THINKING SKILLS	4	0	8					
		20	0	40					
2nd SEMESTER					6th SEMESTER				
	ADMINISTRATION	4	0	8		EDUCATIONAL PRACTICUM II	4	0	8
	PHILOSOPHY OF EDUCATION II	4	0	8		MAN, HISTORY AND SOCIETY	4	0	8
	PSYCHOLOGY OF EDUCATION	4	0	8		EDUCATION AND INFORMATION SOCIETY	4	0	8
	MAN AND ENVIRONMENT	4	0	8		LEARNING ASSESSMENT	4	0	8
	LEARNING THEORIES	4	0	8		QUALITATIVE RESEARCH IN EDUCATION I	4	0	8
	CULTURE I	2	0	4		ELECTIVE II	20	0	40
		22	0	44					
3rd SEMESTER					7th SEMESTER				
	EDUCATION EPISTEMOLOGY	4	0	8		EDUCATIONAL POLICIES	4	0	8
	ADVANCED COMMUNICATION IN ENGLISH	4	0	8		HUMAN RESOURCES ADMINISTRATION	4	0	8
	HISTORY OF EDUCATION IN MEXICO	4	0	8		FOUNDATIONS OF DISTANCE EDUCATION	4	0	8
	CURRICULUM AND POST MODERNITY	4	0	8		QUALITY RESEARCH IN EDUCATION II	4	0	8
	PSYCHOLOGY OF EDUCATION II	4	0	8		EDUCATIONAL PRACTICUM III	4	0	8
	CULTURE II	2	0	4		ELECTIVE III			
		22	0	44			20	0	40
4th SEMESTER					8th SEMESTER				
	HISTORY OF EDUCATION IN MEXICO	4	0	8		LEARNING THEORY THROUGH ELECTRONIC MEDIA	4	0	8
	EDUCATIONAL PRACTICUM	4	0	8		ENVIRONMENTAL EDUCATION	4	0	8
	CURRICULAR DESIGN	6	0	8		INTEGRATING SEMINAR	4	0	8
	RESEARCH METHODOLOGY	4	0	8		EDUCATIONAL MANAGEMENT	4	0	8
	SOCIOLOGY OF EDUCATION	4	0	8		MAN AND ETHICS	4	0	8
		22	0	40		ELECTIVE IV	20	0	40

FIRST SEMESTER

AE404 Contemporary Education and its Purposes

PRE-REQUISIT:

CS400 Advanced Communication in Spanish

This course develops and improves students' abilities to plan, structure, and correctly write documents in order to communicate in public with specific purposes. This course will mainly take place under a workshop modality, making it imperative for students to put into practice each aspect of the process, which includes planning different texts or speeches to orally presenting them before different audiences in order to inform, motivate, and persuade. This is not only intended to be applied in this course, but also in all other situations of their professional lives where it is required to face a specific audience.

PRE-REQUISIT:

AE428 Information Management

PRE-REQUISIT:

CS456 Philosophy of Education I

PRE-REQUISIT:

CS401 Thinking Skills

This is a workshop course designed to promote, through structured exercises, the development of thinking skills that students must use throughout their studies in order to have better academic achievements. These will also be of great importance in their personal lives and professional careers.

PRE-REQUISIT:

SECOND SEMESTER

AD400 Administration

This course is incorporated into the Administration and Business curricula to introduce students to the study of organizations, their administration and evolution, the social and ethical responsibility of companies and businessmen. Understanding of the different functions of any organization –production, human resources, marketing, accounting and finances- as well as the different stages of the administration process –planning, organization, integration, direction and control, to facilitate the optimization of material, human, physic and financial resources involved in administration.

PRE-REQUISIT:

CS459 Philosophy of Education II

PRE-REQUISIT:

AE405 Psychology of Education I

PRE-REQUISIT:

HU400 Man and Environment

This is the first of three courses focused on human beings. It develops around the relationships that stem from three concepts: human beings, society and nature, since the main focus is for students to be able to perceive the way that an individual's development moves society in a direction, and how a social environment strongly modifies natural environments. The last part of the course focuses on the search for alternatives that offer sustainable development.

PRE-REQUISIT:

AE406 Learning Theories

PRE-REQUISIT:

CS403 Culture I

This course intends to allow students to understand the development of culture throughout time and in present times, from an artistic and social point of view, in order to contribute to their growth as individuals.

This course is the first part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression.

PRE-REQUISIT:

LCE EDUCATION SCIENCE

THIRD SEMESTER

AE408 Education Epistemology

PRE-REQUISIT:

ID400 Advanced Communication in English

For this particular course, its main objective is that students develop their communication skills in English, focusing on their major. During this course, students will have the opportunity to substantially improve their proficiency level, especially through constant practice of the four skills: speaking, listening, reading and writing. This course includes a series of learning activities in which students will need to use the target language in situations pertaining to their field of study, such as social interaction, finding a way to improve their oral and written expression, as well as increasing the conventional vocabulary associated to their field of study and future careers. This course requires a positive attitude towards learning from its students, as well a commitment to work in groups and continuously improve their proficiency in English.

PRE-REQUISIT: College English Degree or English Language Center Accreditation

CS460 History of Education in Mexico I

PRE-REQUISIT:

AE409 Curriculum and Post Modernity

PRE-REQUISIT:

AE429 Psychology of Education II

PRE-REQUISIT:

CS404 Culture II

Music Appreciation

This course allows students to appreciate different musical manifestations, obtaining a bigger and closer approach to music. This course is the second part of two: Culture I and Culture II. Under this premise, this first part must be considered as a general introduction to the tasks that students will be carrying out during Culture II when working on a specific artistic expression. For this specific case: Music.

Visual Arts

This course is intended for students to appreciate visual arts through the development of sensitivity and creativity. The personal growth of students is enhanced by the study of this branch of the fine arts.

Literature

This course is the continuation of Culture I. It is intended for students to get close to literature through knowledge of the most important literary currents as well as the historic moment in which they were born, focusing on the repercussions that reading the great works of literature can bring to our daily lives. We look to develop students' critical and reflective sense by performing stimulating readings, as well as improving their spelling. This course demands a high level of reading comprehension; it is considered theoretical-practical since it includes research, definition and comprehension of concepts, such as the elaboration of written assignments.

Performing Arts

This course allows students to understand the development of culture through dance and theater, as well as their social impact and their influence on different artistic expressions. This course is the second part of two: Culture I and Culture II. Under this premise this second part should be considered as the continuation of Culture I, in which they will have a bigger understanding of the reasons for being of theater and dance as an artistic-cultural form of expression.

PRE-REQUISIT: CS403 Culture I

FOURTH SEMESTER

CS461 History of Education in Mexico II

PRE-REQUISIT:

AE410 Education Practicum I

PRE-REQUISIT:

AE411 Curricular Design

PRE-REQUISIT:

LCE EDUCATION SCIENCE

CS402 Research Methodology

This subject intends to awaken in student a certain taste for social research. Parting from the elements they learned in high school, the idea is to make up a common platform of information, and from there, students will develop basic research processes on topics related to the labor market related to their major, in the understanding that this will allow them to identify the importance of this subject in the practice of their professional careers.

PRE-REQUISIT:

CS462 Sociology of Education I

PRE-REQUISIT:

FIFTH SEMESTER

AE412 Paradigms of Educational Research

PRE-REQUISIT:

EC400 Globalization and Economic Development

This course is one of the first that make up the area of life long education, and as such, it intends to help students achieve a general vision of cultural, technological, political, social and economic aspects that will allow them to have the bases to interpret the global world and its transformation since the 1980's.

PRE-REQUISIT:

CS463 Sociology of Education II

PRE-REQUISIT:

AE413 Curriculum and Learning Facilitation

PRE-REQUISIT:

CS464 Education and Values

PRE-REQUISIT:

SIXTH SEMESTER

AE414 Educational Practicum

II

PRE-REQUISIT:

HU401 Man, History and Society

This course belongs to those called "CETYS courses", whose objective is to promote Humanism in all of CETYS' collage students. Its focus is Philosophy of Man, and therefore emphasizes the permanent critical-analytical reflection of man about himself. In particular, this reflection will focus on the dimensions of history and society. First it approaches these dimensions of what constitutes mankind, and after that it considers its phenomenological expression methodically, the thematic contents of the social dimension will be linked to those historical ones, since both can be summed up as here and now.

PRE-REQUISIT:

CS465 Education and Information Society

PRE-REQUISIT:

AE415 Learning Assessment

PRE-REQUISIT:

CS466 Qualitative Research in Education I

PRE-REQUISIT:

SEVENTH SEMESTER

DE455 Educational Policies

PRE-REQUISIT:

RI400 Human Resources Administration

This course provides an overview of the discipline of Human Resources management, its functions, its importance and reach, as well as the diverse techniques and tools used to contribute to the efficiency and effectiveness of an organization.

PRE-REQUISIT:

LCE EDUCATION SCIENCE

AE430 Foundations of Distance Education

PRE-REQUISIT:

CS467 Qualitative Research in Education II

PRE-REQUISIT:

AE416 Educational Practicum III

PRE-REQUISIT:

EIGHTH SEMESTER

AE417 Learning Theory Through Electronic Media

PRE-REQUISIT:

AE418 Environmental Education

PRE-REQUISIT:

CS468 Integrating Seminar

PRE-REQUISIT:

AE419 Educational Management

PRE-REQUISIT:

HU402 Mankind and Ethics

Mankind and Ethics is the third of a series of three courses that CETYS has implemented in its three campuses for all college students. These courses are intended to leave a characteristic impression in all of our students through a reflection on Mankind and the way it relates to its surroundings, its past, its society, and itself. In short, this course reflects upon some of the anthropological conceptions that have taken place throughout history, in order to better understand how the image we have of mankind came to be and the way in which we perceive the world. Parting from this base we begin to accept some actions as being good or bad; this takes us to the field of personal and social values, which are assumed within certain margins of liberty, with these values we begin to accept or reject some obligations and rights we have towards others. With this said, we can conclude by recognizing the responsibility we have in the world of work, in order to establish some reflection on professional ethics.

PRE-REQUISIT:

MP MASTER'S DEGREE IN PSYCHOLOGY

COMMON CORE (8 COURSES):

- ASSESSMENT TECHNIQUES
- PSYCHOPATHOLOGY SEMINAR
- DEVELOPMENT PSYCHOLOGY SEMINAR
- INSTRUMENT DESIGN
- SOCIAL BEHAVIOR SEMINAR
- PSYCHOLOGY OF MEXICANS SEMINAR
- GROUP BEHAVIOR SEMINAR
- RESEARCH METHODOLOGY

CONCENTRATION AREA (7 COURSES):

CLINICAL PSYCHOLOGY

- CLINICAL INTERVIEW
- CLINICAL WORK WITH CHILDREN AND ADOLESCENTS
- ASSESSMENT INSTRUMENTS
- DIAGNOSTIC INTEGRATION
- PSYCHOTHERAPY PRINCIPLES AND METHODS I (DYNAMIC FOCUS)
- PSYCHOTHERAPY PRINCIPLES AND METHODS II (COGNITIVE-BEHAVIOR PERSPECTIVE)
- GROUP PSYCHOTHERAPY

SPECIAL EDUCATION

- DIAGNOSTIC AND ASSESSMENT OF SPECIAL EDUCATION
- SPECIAL EDUCATION MODEL COMPARISON ANALYSIS
- COGNITIVE PROCESSES DEVELOPMENT
- NEUROPSYCHOLOGY ASSESSMENT
- TEACHING STRATEGIES SHOP I
- TEACHING STRATEGIES SHOP II

ORGANIZATIONAL DEVELOPMENT

- STRESS AND LIFE QUALITY AT WORK
- MOTIVATION AND PRODUCTIVITY
- ORGANIZATIONAL DEVELOPMENT
- ORGANIZATIONAL BEHAVIOR, THEORY AND DESIGN
- HUMAN RESOURCE ADMINISTRATION
- ADMINISTRATION IN A TRANSCULTURAL CONTEXT
- DIRECTIVE SKILLS (HIGH ADMINISTRATION)

FAMILY THERAPY

- FAMILY FUNCTIONALITY AND MALFUNCTIONALITY
- FAMILY THERAPY THEORY MODELS
- SYSTEMATIC THINKING IN FAMILY THERAPY
- FAMILY DIAGNOSTIC INTERVIEW
- THERAPY AND FAMILY CHANGE
- COUPLES THERAPY
- THE THERAPIST'S FAMILY OF ORIGIN

CRIMINOLOGY

- ETHICS AND HUMAN RIGHTS SEMINAR
- CRIMINOLOGY SEMINAR
- CRIMINAL SOCIOPSYCHOLOGY SEMINAR
- INTERNATIONAL CRIMINAL POLICIES
- CRIMINAL STATISTICS AND INFORMATION SYSTEMS

MAJOR FIELD OF STUDIES: INTEGRATIVE SEMINAR

MP MASTER'S DEGREE IN PSYCHOLOGY

COMMON CORE

PS509 Assessment Techniques

PS506 Psychopathology Seminar

This course deals with behavioral disorders, childhood disorders, adolescent disorders, and social psychopathologies.

PS502 Development Psychology Seminar

In this course, students will study changes in behavior during different stages in life: infancy, childhood, adolescence, young adulthood, adulthood and old age. These changes are analyzed not only from a psychological perspective, but also taking into consideration their historical context and socio-cultural influence they have received.

PS501 Instrument Design

This course includes psychometric, socio-metric, and projective instruments.

PS504 Social Behavior Seminar

This course reviews the social dynamics that generate functionality or dysfunctionality in social groups or communities.

PS533 Psychology of Mexicans Seminar

This course includes a discussion on cultural topics that have influenced the development of Mexico's working environment and the psychology of workers; expanding its analysis to the configuration of current Mexican society and the values that are acquired through our own idiosyncrasies.

PS503 Group Behavior Seminar

This course deals with the study of group behavior by reviewing basic theories and concepts that allow students to understand its characteristics and formation, as well as the intra and inter group processes in which they live.

CS 502 Research Methodology

This course provides the necessary tools to carry out the general process of applied research focusing, specifically, on elaborating the protocol for an application project.

Concentration Area CLINICAL

PSYCHOLOGY

PS511 Clinical Interview

This is a course in which the student is exposed to the clinical interview fundamentals, defined as "a conversation with a purpose", or a conversation between an expert and a patient with the objective of clarifying the characteristic patterns that conform the life-style of an individual to determine if such patterns are pathological, how severe they are, and what actions are needed for the patient's benefit.

PS512 Clinical Work With Children and Adolescents

In this course students will be introduced to therapeutic work with children and adolescents. Problems related to diagnosis will be checked from a psychological development approach. A revision of the psychological and behavioral disorders from these stages of development will be done and prevention strategies and treatment generated in the last years will be reviewed, which are part of clinics in their daily performance.

PS514 Diagnostic Integration

In this course the elements that include a diagnosis will be checked, as well as its theoretical- methodological fundamentals. Ethics and social implications of the diagnosis are considered as reference, as well as the advantages and disadvantages for strategies and intervention planning.

PS515 Psychotherapy Principles and Methods I (Dynamic Focus)

Psychotherapeutic approaches will be checked from a psychodynamic perspective as well as the correct technique for these approaches, therapeutic process, therapeutic contract, transference and counter- transference, and process termination.

PS516 Psychotherapy Principles and Methods II (Cognitive-Behavior Perspective)

Brief approaches of psychotherapy will be checked such as cognitive behavior, making emphasis on its application to different problems such as depression, ingestion disorder, obesity, posttraumatic stress disorder, among others. Its pros and cons will be emphasized.

PS517 Group Psychotherapy

Group therapy is presented as an effective approach for diverse personality disorders treatments, as well as an experience of personal and group development obtaining very important learning applicable in personal and interpersonal life. Students will be introduced to group and couple psychological intervention from a multidisciplinary approach.

ORGANIZATIONAL DEVELOPMENT

RI502 Stress and Life Quality at Work

Stress is an everyday phenomenon that is present in adaptation disorders in general life as well as in work specifically. It is calculated that around two thirds of all diseases are related to stress. Stress is a process in which biological, psychological, and social variables interact giving way to numerous disorders that are physical as well as emotional. In this course the main topics of stress are reviewed from a theoretical-practical perspective, such as personality, stress and health, psychobiology of stress, stress and emotional disorders, sexual and cardiovascular disorders, work stress, burn out syndrome, prevention strategies and stress interventions, work with populations at risk.

RI503 Motivation and Productivity

This course reviews diverse central topics that refer to motivation and their relation to behavior and performance of individuals in organizational contexts. Contemporary theories and practical applications of motivation towards work that relate personal and environmental problems with the acquisition of abilities, work performance, organizational behavior, organizational commitment, and work satisfaction.

RI510 Organizational Development

Organization Development (OD) will be presented as a planned systematic effort, for the study and improvement of Systems, focusing specifically on changing formal and informal procedures, processes, norms or structures using concepts from the science of conduct. The goals of organization development include improvement of quality of an individual's life, as well as the better functioning and performance of a given organization. The way that organization development is related to other social sciences will be established.

RI520 Organizational Behavior, Theory and Design

This course focuses on organizations, their structure, the outcome they wish to obtain, and how they solve situations related to culture, behavior of employees and values. Students will examine strategies designed to create and assess knowledge, including psychological bases of human behavior, individual learning, communication among cultures and intellectual and human capital. Other topics such as communication, motivation, team work, organizational change, stress, power, influence and trust are also reviewed.

RI505 Human Resource Administration

Application of theory and psychological research to the selection, assessment, and training of personnel in organizations. The principles related to individual differences and decision making with psychological measurements will be applied to hiring and personnel management and organization training. The concepts and techniques related to the analysis of positions, recruitment, assessment, selection, performance assessment, life training and other processes that positively and/or negatively affect learning and performance in organizations will be reviewed.

RI515 Administration in a Transcultural Context

The importance of globalization is becoming more present everyday. Markets have opened up to new plains that represented great risk in the past and it is vital to be familiar and manage these changes. Culture is part of this phenomenon; it gives us different ways of acting and perceiving the actions of others, among them, business. In the border we face this human manifestation, which is why it is important to be familiar with it and be able to mediate the needs and resources of people who work with us. It is necessary to understand need as cultural diversity, understanding and doing part of the management process and its tools and instruments as a fundamental support for this area.

AD503 Directive Skills (Upper Management)

Nowadays, company managers must turn to different techniques to motivate and increase employee efficiency; they are able to achieve this by knowing the needs of their human resources and the Management of strengths and weaknesses that are present inside as well as outside the company, that is to say, Management of their internal and external environment. Techniques such as benchmarking, SWOT analysis, opportunities, weaknesses and strengths, determine very valuable information that allows manager to make informed decisions of cause and effect that lead to better guided intentions, behavior, and commitment of human capital in an organization

SPECIAL EDUCATION

PS525 Diagnostic and Assessment of Special Education

This course includes different techniques to assess children with special education needs.

MP MASTER'S DEGREE IN PSYCHOLOGY

PS526 Special Education Model Comparison Analysis

This course is designed for teachers, psychologists or people who work in the field of special education. Throughout the course different models of special education will be analyzed and comparisons among them will be discussed.

PS527 Learning Problems and Poor Performance at School

This course is oriented to instructors, psychologists or people directly involved in the process of teaching children and adolescents in different educational levels. Throughout this course an analysis of the most common learning processes and the deep connection they have with a high/poor school performance will be carried out. A theoretical revision of the contents and practical application of such processes will be done. During this course students will apply their acquired knowledge in their work centers.

PS528 Cognitive Process Development

This course presents basic cognitive processes and their development. They are presented as basic processes that help organize the behavior and complex experience of the subject. The basic idea that this is fundamental not only for understanding human conduct, but also for the development of diverse fields inside and outside psychology are proposed (e.g. neuropsychology, psychotherapy, artificial intelligence, among others).

PS529 Neuropsychological Assessment

This is a course in which students are introduced to neuropsychological assessment, its history, its evolution, methodology, its reach and limitations as a focus point to understand the cognitive functioning of people. A methodology to carry out a global assessment in this area is presented, the adequate tests are revised for each step of assessment and intervention guidelines are suggested.

PS530 Learning Strategy Workshop I

This course covers aspects related to the experience of the reality of having a child with special educational needs and the strategies through which families can collaborate in a positive way in rehab processes, attention and care of their children. Participants will design strategies in order for families in this situation to develop attitudes and abilities that allow them to collaborate in a more committed way in the process of rehabilitating their children.

This is a course where the participants are required to be actively involved in helping families who have children in these circumstances by adopting an educational focus – prevention to allow the family to confront this reality with the most adequate resources.

PS531 Learning Strategy Workshop II

Brief approaches of psychotherapy will be checked such as cognitive behavior, making emphasis on its application to different problems such as depression, ingestion disorder, obesity, posttraumatic stress disorder, among others. Its pros and cons will be emphasized.

FAMILY THERAPY

PS518 Family Functionality and Malfunctionality

The main topic of this course is the comprehension of theories and procedures that explain the reasons why a family develops a dysfunctional process in a given stage of a life cycle. Topics such as family health, successful and unsuccessful adaptation processes to the demands of life, as well as the means used by families to adapt are part of this course. Concepts such as Normalcy and abnormality, referring to the optimal functioning of a family within changing socio-cultural contexts are reviewed.

PS519 Theoretical Models in Family Therapy

This is a course in which the anthropological and epistemological fundamentals are reviewed, as well as the concepts of family and family development, health and pathology, functionality and dysfunctionality in family and couple relations, and the therapeutic strategies developed within the same. Among the topics approached in this course, there is the question of effectiveness of the different approaches related to therapeutic interventions. Available research about the results of family therapy with different types of families is reviewed.

PS520 Systematic Thinking in Family Therapy

Thinking in systematic terms is basic for family therapy. This course's objective is to provide students with conceptual and developmental elements of competencies for thinking in Systems. It opposes linear thinking which has been present in the paradigms that are currently being used to conceptualize the problems of human relations and the methods used for their treatment. Thinking in terms of systems is basic for family therapy.

MP MASTER'S DEGREE IN PSYCHOLOGY

PS521 Diagnostic Family Interview

This is a course in which the different modalities of a family interview are revised and exemplified, as well as the unique traits each of them has. Through exercises such as role playing, video tape review, as well as student exposure to actual interviews, performed by family therapists subscribed to this program, students will develop a comprehension of this method of work and obtain basic competencies in this area. Assessment instruments used with families will be reviewed, and this will demonstrate how to use them in the design process of family therapy.

PS535 Therapy and Family Change

Among other topics, the following will be approached: the dilemma of change, the formation of problems, more of the same, simplifications, utopias, paradoxes. Problem solving, primary order change, secondary order change, hypothesis formulation, behavioral level, emotional level, idealism level. The practice of change, and different ways of producing and assessing it in family systems.

PS523 Couples Therapy

A couple is a system that plays a crucial role in family development. Attending to this importance, matters related to the formation of a marital relation and other intimate relationships that are functional as well as dysfunctional according to society will be reviewed during this course. Modern and post-modern perspectives on couples and family will be studied. The role played by therapy in pre-marital, marital relations and divorce and custody procedures will be explored. Concepts related to couples communication as well as the influence of differences of gender in the organization of marital life will be viewed. In this course, the aspects of Mexican culture and its influence on the formation and life of a couple will be studied.

PS524 The Therapist's Family of Origin

In this course, students are introduced to their own roots as individuals. The analysis of their own family at nuclear and intergenerational level will allow them to adequately handle those feelings, thoughts, and attitudes that have been developing as their life cycle advances and they will be put to work in the process of therapy.

CRIMINOLOGY

CS503 Ethics and Human Rights Seminar

En este curso se incluyen los elementos básicos de la ética y de los derechos humanos en el campo de la Criminología.

PS505 Criminology Seminar

This course reviews elements of criminology such as the history of crime, parasocial conducts, predisposing crime factors, victimology, penology and the social cost of crime.

PS508 Criminal Psychology Seminar

This course includes the functions of professionals required to carry out prevention interventions, control, orientation and re-adaptation in society in the field of male, female, juvenile delinquency.

DE505 International Criminal Policies

This course deals with different aspects of criminology seen from a global point of view, analyzing relevant aspects of international criminal policy, its impact, intervention and prevention experience, tendencies, and research.

SI500 Criminal Statistics and Information Systems

Throughout this course students will develop the ability to interpret crime statistics, using practical tools as well as applying information systems in criminal investigations. This course will also deal with the analysis of the main mechanisms to mediate and do empirical research on insecurity and victimization in Mexico.

AP510 Public Security and Community

This course begins with the interdisciplinary analysis of insecurity as a social representative, to later propose a conceptual analysis of public security and the justice system in order to understand the general framework of their performance and impact in results and social perception, deriving from policies implemented in Mexico, as well as citizen response to this problem.

AP509 Justice and Public Security Administration

This course begins with the general study of justice administration in Mexico, where students will analyze the integration and competency of different judicial organisms that are involved, at a federal and state level, focusing the discussion on topics related to efficiency, perspective and impact on public security.

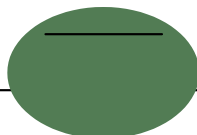
MP MASTER'S DEGREE IN PSYCHOLOGY

PS500 Criminology and Forensic Medicine

Throughout the course, students will use an interactive methodology with theoretical classes and practical workshops to study the field of action and the main methods and techniques for criminal investigations and forensic medicine.

PS507 Penitentiary Systems Seminar

This course reviews generalities on penitentiary systems, security systems and social readaptation strategies.



MASTER'S DEGREE IN EDUCATION

COMMON CORE (9 COURSES):

- EDUCATION FOR THE 21ST CENTURY
- CURRICULAR AND INSTRUCTIONAL DEVELOPMENT
- LEARNING FACILITATION
- LEARNING THROUGH TECHNOLOGY
- LEARNING ASSESSMENT
- EDUCATION RESEARCH
- EDUCATION PSYCHOLOGY
- EDUCATION ADMINISTRATION
- GENERAL DIDACTICS

CONCENTRATION CORE (4 COURSES):

SPECIAL EDUCATION

- PSYCHOLOGY DEVELOPMENT
- FAMILY FUNCTIONALITY AND MALFUNCTIONALITY
- SPECIAL EDUCATION DIAGNOSTIC AND ASSESSMENT
- SPECIAL EDUCATION MODEL COMPARISON ANALYSIS
- LEARNING PROBLEMS AND POOR SCHOOL PERFORMANCE
- COGNITIVE PROCESS DEVELOPMENT
- TEACHING STRATEGIES SHOP I
- TEACHING STRATEGIES SHOP II

ORGANIZATIONAL DEVELOPMENT

- STRESS AND QUALITY LIFE AT WORK
- MOTIVATION AND PRODUCTIVITY
- ORGANIZATIONAL DEVELOPMENT
- HUMAN RESOURCE ADMINISTRATION
- HUMAN COMMUNICATION THEORY
- ORGANIZATIONAL BEHAVIOR, THEORY AND DESIGN
- HIGH ADMINISTRATION
- ETHICS AND VALUES DURING THE EXERCISE OF THE PROFESSION

LEGAL CULTURE

- MEXICAN POLITIC SYSTEM
- LEGAL CULTURE
- JUSTICE AND PUBLIC SECURITY ADMINISTRATION
- PUBLIC SECURITY AND THE COMMUNITY
- ETHICS IN PUBLIC CHARGES
- ETHICS AND HUMAN RIGHTS SEMINAR
- CONSTITUTIONAL RIGHT

MASTER'S DEGREE IN EDUCATION

Common Core Courses

CS519 Education For The 21st Century

This is the first course of the master's degree. Students must go through an introductory session where the history of the institution is described, as well as its educational model and the central aspects of Graduate School Management. After this, the program contemplates two essential aspects: understand the importance of an educational model even in times of conflict. The second aspect focuses on the student with an initial glance at the educational paradigm centered in learning, all of which will be seen in depth in later courses.

CS520 Curricular and Instructional Development

The structure of this course has the ultimate goal of developing in students a reflexive development on cutting Edge didactic focuses, which try to center in learning as a fundamental change for new didactics: from focusing on pure learning to learning focused on the student, taking on the elements that constitute the curriculum in its foundation, design and assessment, as well as the theoretical aspects that intervene in the process of teaching learning, taking some of the paradigms of cognitivism and constructivism.

CS521 Learning Facilitation

Seminar modality, this course is focused on the revision of psychological and pedagogical aspects that fundament the facilitation of learning. Also, in workshop modality, it is oriented toward the development of teaching abilities to facilitate learning through individual and group strategies.

CS522 Learning Through Technology

This course intends to present an overview of education based on electronic media, especially communication mediated by computer, with the objective of valuating its potential in education. This course focuses on the presentation and discussion of education supported by electronic media and the application of some media considered as work tools for instructors. For the course's development, it is necessary to have the support of a computer laboratory equipped with internet access, *office* tools and access to *blackboard*.

CS523 Learning Assessment

This course is oriented towards the revision of ethical and technical aspects that are the foundation of learning assessment, which will be imparted in a seminar modality. On the other hand, it will also be worked on as a workshop, which focuses on the development of instructor abilities for the use of objective and alternative assessment techniques and instruments.

CS524 Educational Research

This course is centered on the analysis of paradigms of research for their comprehension and application in education, within the daily activities of each instructor. In other words, the theoretical-practical aspects of research paradigms are revised. Different types of research are analyzed and the general components of a research project are also reviewed.

CS525 Educational Psychology

This course focuses on the revision of different scenarios that coexist in the field of educational psychology, specifically in the area of learning, taking the student into consideration, and teaching, taking the instructor into consideration.

CS526 Educational Administration

This course focuses on the revision of normative, structural, and management aspects that are present in the process of educational institution management.

CS527 General Didactics

Through this course the concept of Didactics is reviewed in light of the multiple focuses of its authors. An analysis on the historical evolution of Didactics is made and culminates with an anthology of successful learning experiences of the participants. It is a very vivid course. Students have studied basic common core courses where they have reviewed the elements that make up the process of teaching – learning focused on the learner and learning. Now, in this course, students will have the opportunity to integrate the acquired knowledge and abilities to determine an adequate instructor profile in concrete didactic proposals in their field of work.

MASTER'S DEGREE IN EDUCATION

Concentration Core

Special Education

PS502 Development Psychology

In this course people's behavioral changes are studied through different stages in life: childhood, school age, adolescence, youth, maturity and seniority. Changes are analyzed not only from a psychological point of view but also considering the historical context and socio-cultural influences in which they are developed.

PS518 Family Functionality and Malfunctionality

The main topic of this course is the understanding of the theories and processes that explain the reasons why a family develops a dysfunctional process in a given stage of the vital cycle. This course comprehends topics such as family health, successful and unsuccessful adaptability processes in life demands, as well as the means used by families to adapt. Concepts such as normality and abnormality, referring to the family's optimal functioning inside changing socio-cultural contexts are revised.

PS525 Special Education Diagnostic and Assessment

This is a study including different techniques for the assessment of children with special educational needs.

PS526 Special Education Model Comparison Analysis

This course is directed to instructors, psychologists or people that work in special education areas. Throughout this course different special ed models will be analyzed and contrasted among them.

PS527 Learning Problems and Poor Performance at School

This course is oriented to instructors, psychologists or people directly involved in the process of teaching children and adolescents in different educational levels. Throughout this course an analysis of the most common learning processes and the deep connection they have with a high/poor school performance will be carried out. A theoretical revision of the contents and practical application of such processes will be done. During this course students will apply their acquired knowledge in their work centers.

PS528 Cognitive Process Development

This course covers the basic cognitive processes and their development. The basic processes that contribute to behavior organization and individuals complex experience are presented. The basic idea that studying is essential not only for the understanding of human behavior but also for the development of different fields in and out psychology's scope (e.g. neuropsychology, psychotherapy, artificial intelligence, among others).

PS530 Teaching Strategies Workshop I

This course covers aspects related to the experience of the reality of having a child with special educational needs and the strategies through which families can collaborate in a positive way in rehab processes, attention and care of their children.

PS531 Teaching Strategies Workshop II

This course presents an overview of the difficulties a child with special educational needs encounters at school and the support that must be provided to teachers. This course offers a reference frame to understand this situation and to think of alternative ways to confront and solve it.

MASTER'S DEGREE IN EDUCATION

Organizational Development

RI502 Stress and Quality of Life at Work

Stress is a daily phenomenon in adaptation disorder, in life in general, as well as in a specific area. It is estimated that two thirds of all diseases are related to stress. Stress is a process in which biological, sociological and psychological variables interact, giving place to a big number of emotional and physical disorder. During the course the main topics about stress are checked from a theoretical and practical perspective. Among others, personality, stress and health, stress psychobiology, stress and emotional, sexual and cardiovascular disorder. Stress, couples and family. Work stress and the *burn out* syndrome. Preventive and intervention strategies in stress. Work with risk population.

RI503 Motivation and Productivity

Several central topics regarding motivation and its relation to behavior and the individual performance in organizational contexts are checked. Theories and contemporary applications about motivation towards work related to personal and environmental facts will be checked, as well as abilities acquisition, work performance, organizational behavior, organizational commitment, and work satisfaction.

RI505 Human Resource Administration

The course offers general background about human resources administration, covering the different aspects and elements of position planning, designing, and analysis, recruitment and selection, training and development, assessment and labor relation.

RI510 Organizational Development

This course focuses on fundamental concepts of Organizational Development analysis, through studying how and why organizations change, adapt, or fail, as well as empiric tools and practical cases that allow to diagnose and interfere successfully in change and organizational innovation processes.

RI519 Human Communication Theory

Current theories about human communication will be checked, especially those derived from Palo Alto School. Due to the transactional nature of human relations, and the multiple ways of relation produced in the family circle, it seems to be comprehensible to think of the necessity of instructors getting reference about the importance of human communication.

RI520 Organizational Behavior, Theory and Design

This course is focused on organizations, their structure, the results they want, and how they solve situations regarding culture, employee behavior, and values. Students will analyze strategies designed to create and assess knowledge, including the psychological basis of human behavior, individual and organizational learning, the communication among cultures and the human intellectual capital. Topics such as communication motivation, team work, organizational changes, stress, power, influence and confidence will be checked.

AD503 High Administration

The study of management as a discipline develops abilities and knowledge needed to formulate and set a work culture oriented to reach excellence in business management and business administration. A proper model in management must be oriented to find the highest survivor levels when running any human activity. Through a process of innovation, the environment variables affecting the managing action must be understood, as well as managing successfully the culture, idealism, and values of the human capital involved through a leadership process.

CS506 Ethics and Values During the Exercise of the Profession

This is a course in which personal and social values, as well as the ones in professional performance, are discussed widely. The instructor, the Mexican psychologist, and the family therapist ethics code will be revised as well as some theories about ethics, applying such concepts and principles in Mexican and regional context. Practical case utilization to be analyzed, will allow students to develop a critical sense on their own professional performance and on resources and limitations; they have to face ethical and questionable situations.

MASTER'S DEGREE IN EDUCATION

Legal Culture

AP505 Mexican Political System

This course presents the development of the current Mexican political system, its genesis from the revolutionary movement, the classic stage of consolidation, the procedures for political and economic liberation, to the analysis proposal and discussion of a new socio-political profile in Mexico.

AP508 Legal Culture

This course deals in a reflective manner with the inherent values of humans in contemporary society, and allows for the analysis of the deterioration of social coexistence due to phenomena like delinquency, organized crime and corruption, searching to generate a discussion about alternatives in the framework of culture of leg.

AP509 Justice and Public Security Administration

This course is part of the general study of justice administration in Mexico, where we analyze the integration and competency of different legal organizations involved at federal and state levels, focusing the discussion on topics related with efficiency, perspective and impact on public security.

AP510 Public Security and Community

This course is part of the interdisciplinary analysis of insecurity as a social representation, to later propose a conceptual analysis on public security and the justice system that allows to understand the general framework of its development and impact on results and social perception, derived from implemented politics in Mexico as well as citizen response to this problem.

CS500 Ethics in Public Office

This course presents a contemporary vision of ethics in public office, from the analysis of the corruption phenomenon to the framework in which current administrative and legal systems are developed. Different topics of the subject are approached to discuss alternatives and mechanisms of transparency and legality.

CS503 Ethics and Human Rights Seminar

This course includes the basic elements of ethics and human rights in the field of Criminology

DE502 Constitutional Rights

This course takes on the constitutional bases of organizational structure and functioning of the Mexican State, individual rights and social principles and values that make up the Constitution and its elements and control procedures. Also, it offers an approximation to constitutional right compared to the case of the U.S. and Mexico.

Terminal Course

CS505 Integrating Seminar

Participants will create a final application project considering the most important personal and professional knowledge acquired throughout this Master Degree. They will emphasize the need of developing appropriate methods and systems to assess their own practice and to continue the learning process that will make them competent and better qualified professionals in their specialization area. An ethics and values workshop is included with the purpose of making the participants analyze the contents of the professional ethics and values codes in special education.

