
**CENTER OF BASIC SCIENCE
ELECTRONICS ENGINEER (PLAN 2003)**

AIMS & SCOPE TO FORM PROFESSIONALS

- With knowledge's in the electronics area, able to apply the materials and natural to society welfare.
- With innovation to design, develop, adapt and hold different electronics systems.
- With high ethics sense and society welfare.
- Able to continuing with his/her academic develop with a Master Science or PhD Degree.

APPLICANT PROFILE:

a) Knowledges

Knowledge in the following areas are desirable

- Physic & Mathematics.
- Basic electricity.
- Basic computation.

b) Skills

The following are desirable skills

- Abstract reasoning capability.
- Perseverance and dedication in the study, as well as availability to dedicate additional time to school activities.
- Manual dexterity.
- Capability to analyze and solve real world problems.
- Creativity, critical thinking & teamwork.

c) Attitudes

The following attitudes are desirable.

- Interest, affinity or inclination to electronics.
- Capability and interest in scientific and technological information.
- Social and personal growth.
- Interest in welfare & the environment that guide their future

GRADUATE PROFILE:

Knowledges:

- Solid bases in Physics & Mathematics.
- English as a second language.
- Electronics technology: analog and digital circuits, components and processing systems, analog and digital communications, circuits and control systems.
- High and low level programming languages.
- Socials and humanistic sciences.

Skills:

The graduate will have the following skills

- Experimental capabilities based in the handle of modern technology.
- Oral and written communication, creativity, ability to analyst and synthesis.
- Use of investigation methodologies.
- Teamwork.
- Facility to adapt him/her to the new technologies.

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Attitudes

The graduated will show following attitudes.

- Tolerant behavior and critical attitude.
- Habits for self-study and actualization.
- Collaborative work.
- Be proactive.
- Responsibility behavior, seriously and professionalism in their activities.
- Academic Improvement disposition.
- Pride to be a graduated of UAA.
- Be solidarity with their fellows.

JOB FIELD:

COMMUNICATIONS ENPHASIS:

The Electronics Engineer with communications emphasis has the necessary preparation to: design, build and maintain commercial and private systems of radio, digital radio, microwaves systems; and to participate in investigation projects and develop in the electronics field and communications.

DURATION:

Ten semesters.

HUMANISM PROGRAM.

The program promotes the development of knowledge, skills and attitudes that strengthen the fundamental capacities of human beings, aspiring to high professional develop and ethical performance and welfare. Students must cover the marked elective humanities education credits in their curriculum, through intensive or extensive courses and basic or complementary modality, which are scheduled for that purpose. It is mandatory that at least one of the courses be in basic mode.

ENTREPRENEURS PROGRAM:

One of the major concerns of higher education is that students "learn to learn" with a spirit of initiative, to solve any task whether personal or professional, so that it becomes a way of life and part of entrepreneurial culture. This semester program offers elective courses that have value in humanistic credits.

PROGRAM DEVELOPMENT SKILLS INTELLECTUAL:

It provides support for students who seek alternative methodologies acquisition and / or development of learning strategies, to facilitate their ability to perform more successfully to the challenges of their education. This semester program offers elective courses that have value in humanistic credits.

SOCIAL SERVICE:

The social service aims to put students in contact with social reality, which may reward in service to society the benefits of the education received, helping to improve the social sectors less benefited by socioeconomic development. For compliance the social service is required to comply with general guidelines outlined in the General Regulations for undergraduate Teaching and designated by the Regulations of existing Social Service, with exception of students in the majors of Biomedical Sciences Center who governed by state and federal regulations specific to their areas.

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PROFESSIONAL PRACTICE AREAS:

Internships are an element that substantially enriches the student's education; it is a mutual benefit between the industry and the university. For compliance, the student must accomplish with the operating procedures and policies in place. That is, the student will perform 240 hours of Professional Practice within the last four semesters.

FOREIGN LANGUAGES PROGRAM:

The objective of the Foreign Languages program is to support the training of undergraduate students in learning a foreign language, according to the statements of ideology and institutional educational model and an increasingly globalized society. The project was approved by the University Council at its regular meeting held on September 28, 2000. Students must meet the provisions of the institutional policies that are in force. Importantly, the accreditation of a foreign language is a prerequisite for the title, is an extracurricular activity without credits.

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CURRICULUM

PLAN 2003

FIRST SEMESTER	T	P	C	CENTER	DEPARMENT
ALGORITHMS AND AUTOMATONS	2	3	7	BASIC SC.	ELECT. SYST.
SUPERIOR ALGEBRA	2	3	7	BASIC SC.	MATH. & PHYS.
DIFFERENTIAL CALCULUS	2	3	7	BASIC SC.	MATH. & PHYS.
ORAL AND WRITTEN EXPRESSION	2	2	6	SOCIAL SC. & H.	LYRICS
SECOND SEMESTER	T	C	P	CENTER	DEPARMENT
PROGRAMMING I	2	3	7	BASIC SC.	ELECT. SYST.
LINEAR ALGEBRA	2	3	7	BASIC SC.	MATH. & PHYS.
INTEGRAL CALCULUS	2	3	7	BASIC SC.	MATH. & PHYS.
PHYSICS I	2	3	7	BASIC SC.	MATH. & PHYS.
ELECTRICAL MEASUREMENTS	2	5	9	BASIC SC.	ELECT. SYST.
THIRD SEMESTER	T	P	C	CENTER	DEPARMENT
PROGRAMMING II	2	3	7	BASIC SC.	ELECT. SYST.
LOGICAL CIRCUITS I	2	5	9	BASIC SC.	ELECT. SYST.
VECTOR CALCULUS	2	3	7	BASIC SC.	MATH. & PHYS.
DIFFERENTIAL EQUATIONS	2	3	7	BASIC SC.	MATH. & PHYS.
ELECTRIC CIRCUITS I	2	5	9	BASIC SC.	ELECT. SYST.
PHYSICS II	5	2	12	BASIC SC.	MATH. & PHYS.
FOURTH SEMESTER	T	P	C	CENTER	DEPARMENT
UNIX	2	3	7	BASIC SC.	ELECT. SYST.
COMPLEX ANALYSIS	2	3	7	BASIC SC.	MATH. & PHYS.
PROBABILITY AND STATISTICS	2	3	7	BASIC SC.	STATISTICS
ELECTRIC CIRCUITS II	2	5	9	BASIC SC.	ELECT. SYST.
ELECTROMAGNETIC THEORY	2	3	7	BASIC SC.	MATH. & PHYS.
LOGICAL CIRCUITS II	2	5	9	BASIC SC.	ELECT. SYST.
FIFTH SEMESTER	T	P	C	CENTER	DEPARMENT
ASSEMBLY LANGUAGE	2	3	7	BASIC SC.	ELECT. SYST.
NUMERICAL METHODS	2	3	7	BASIC SC.	MATH. & PHYS.
SOFTWARE DESIGN FOR ELECTRONICS	2	2	6	BASIC SC.	ELECT. SYST.
COMPUTATIONAL ORGANIZATION	2	3	7	BASIC SC.	ELECT. SYST.
PHYSICS III	2	5	9	BASIC SC.	MATH. & PHYS.
ELECTRONICS I	2	5	9	BASIC SC.	ELECT. SYST.
SIXTH SEMESTER	T	P	C	CENTER	DEPARMENT
TELEPROCESSING	2	2	6	BASIC SC.	ELECT. SYST.
SIGNALS AND SYSTEMS	2	3	7	BASIC SC.	ELECT. SYST.
ELECTRONICS II	2	5	9	BASIC SC.	ELECT. SYST.
ELECTRIC MACHINES	2	2	6	BASIC SC.	ELECT. SYST.
MICROPROCESSORS	2	3	7	BASIC SC.	ELECT. SYST.
VHDL DESIGN	2	3	7	BASIC SC.	ELECT. SYST.

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SEVENTH SEMESTER	T	P	C	CENTER	DEPARMENT
DISTRIBUTED SYSTEMS	2	3	7	BASIC SC.	ELECT. SYST.
ELECTRONICS INSTRUMENTATION	2	5	9	BASIC SC.	ELECT. SYST.
OPERATIONAL AMPLIFIERS	2	5	9	BASIC SC.	ELECT. SYST.
MICROCONTROLLERS	2	3	7	BASIC SC.	ELECT. SYST.
CONTROL THEORY	2	3	7	BASIC SC.	ELECT. SYST.
VALUES FORMATION	3	0	6	SOCIAL SC. & H.	LYRICS
EIGHTH SEMESTER	T	P	C	CENTER	DEPARMENT
ADVANCED INSTRUMENTATION (CONTROL)	2	5	9	BASIC SC.	ELECT. SYST.
ELECTRONICS III (CONTROL)	2	5	9	BASIC SC.	ELECT. SYST.
CONTROL THEORY II (CONTROL)	2	3	7	BASIC SC.	ELECT. SYST.
TRANSMISSION LINES AND ANTENNAS (COMMUNICATIONS)	2	3	7	BASIC SC.	ELECT. SYST.
ELECTRONICS III (COMMUNICATIONS)	2	5	9	BASIC SC.	ELECT. SYST.
ELECTRIC COMMUNICATION THEORY (COMMUNICATIONS)	2	5	9	BASIC SC.	ELECT. SYST.
NINTH SEMESTER	T	P	C	CENTER	DEPARMENT
DIGITAL CONTROL (CONTROL)	2	3	7	BASIC SC.	ELECT. SYST.
ROBOTICS (CONTROL)	2	5	9	BASIC SC.	ELECT. SYST.
DIGITAL TELEPHONY (COMMUNICATIONS)	2	3	7	BASIC SC.	ELECT. SYST.
DIGITAL COMMUNICATIONS SYSTEMS (COMMUNICATIONS)	2	5	9	BASIC SC.	ELECT. SYST.
TENTH SEMESTER	T	P	C	CENTER	DEPARMENT
INTEGRAL PROJECT (CONTROL)	3	4	10	BASIC SC.	ELECT. SYST.
ADVANCED TOPIC OF CONTROL (CONTROL)	2	3	7	BASIC SC.	ELECT. SYST.
INTELLIGENT CONTROL (CONTROL)	2	3	7	BASIC SC.	ELECT. SYST.
INTEGRAL PROJECT (COMMUNICATIONS)	3	4	10	BASIC SC.	ELECT. SYST.
NETWORKS DESIGN (COMMUNICATIONS)	2	3	7	BASIC SC.	ELECT. SYST.
DSP	2	3	7	BASIC SC.	ELECT. SYST.