

Objectives

To prepare professionals able to design, analyze, and evaluate electronic systems and devices in diverse applications, such as electronic control of processes, communications, security systems, and measuring and instrumentation systems, as well as in the administration of the production of such systems or devices.

Student Profile

The student in this program should:

- Be able to analyze and synthesize;
- Be creative with a talent for design;
- Be able to work well in groups;
- Enjoy physics and mathematics;
- Have good oral and writing skills.

Areas for Potential Employment

Graduates of this program will be able to carry out a career in the public as well as the private sectors, in design planning, equipment selection, and the operation and supervision of electronic systems. In addition, they will be able to perform other professional activities such as administration, business, consulting, research, teaching, or creating a company of their own.

First Semester

- Algebra and Analytical Geometry
- Differential and Integral Calculus
- General Physics
- Introduction to Engineering
- Introduction to Computers
- Equipment Management Laboratory

Second Semester

- Cost Accounting and Administration
- Linear Algebra
- Vectorial Calculus
- Statics
- Computational Tools
- Formal Logic and Algorithms

Third Semester

- Dynamics
- Logical Design
- Differential Equations
- Electricity and Magnetism
- Advanced Programming
- Techniques for Oral and Written Expression

Fourth Semester

- Human Resources Management
- Physical Systems Dynamics
- Philosophical Anthropology
- Economic Engineering
- Numerical Methods
- Probability and Statistics
- Quality Systems

Fifth Semester

- Analysis of Electric and Electronic Circuits
- Digital Systems Design
- Electronic Devices
- Applied Statistics
- Research Methodology
- Elective
- Elective

Sixth Semester

- Signal Amplification
- Analogue Electronics
- Control Theory
- Microprocessor and Microcontroller Architecture
- Elective
- Elective
- Elective

Seventh Semester

- Design of Systems with Microprocessors and Microcontrollers
- Power Electronics
- Measuring and Instrumentation
- Elective
- Elective
- Elective
- Elective

Eighth Semester

- Business Development
- Internship
- Professional Ethics
- Elective
- Elective
- Elective

Elective Subjects

- Network Analysis
- Random Signal Analysis
- Signal Analysis and Modulation
- Antennas
- Computer Architecture
- Production Automation
- Biophysics
- Digital Communications
- Digital Control
- Quality Control
- Distributed Control
- Computer-Aided Design (CAD)
- Interface Design
- Advanced Design of Systems with Microprocessors
- Productive Systems Design
- Electric Energy Distribution
- Electropneumatics
- Electromedical Equipment I
- Electromedical Equipment II
- Ergonomics
- Project Analysis
- Evaluation of Investment Projects
- Physiology
- Artificial Intelligence and Robotics
- Industrial Engineering
- Electrical Installations I
- Electrical Installations II
- Analytical Instrumentation
- Interfaces and Peripherals
- Optimization Techniques
- Operations Research
- Labor Laws
- Acoustics and Optics
- Electric Circuits Analysis