

Electronic and Communications Engineering

Objectives

To prepare professionals able to participate in the design, research, selection, administration, maintenance, or consultancy of electronic systems for digital analogic communication, such as: audio, video, satellite computer networks, and all kinds of communications systems.

Student Profile

The student in this program should:

- Like acquiring technical knowledge;
- Be able to analyze and synthesize;
- Be able to assess options;
- Be creative;
- Be interested in scientific disciplines;
- Be able to reason logically;
- Be enterprising;
- Be interested in doing research;
- Be able to apply critical judgment.

Areas for Potential Employment

Graduates of this program will be able to work in the public and private sector, in commercial or industrial areas that require or use computer-based electronic systems for productive, commercial, or service purposes. Graduates will be able to develop computer-based industrial-control systems and robotics, and will offer technical support and electronic maintenance for data-processing equipment.

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
- Electromagnetic Theory
- Acoustics and Optics

Sixth Semester

- Signal Amplification
- Microprocessor and Microcontroller Architecture
- Analogue Electronics
- Control Theory
- Electromagnetic Waves
- Network Analysis
- Telephone Systems

Seventh Semester

- Design of Systems with Microprocessors and Microcontrollers
- Power Electronics
- Measuring and Instrumentation
- Radio Communication Systems
- Signal Analysis and Modulation
- Digital Communications
- Antennas

Eighth Semester

- Business Development
- Internship
- Professional Ethics
- Electronic Transmission of Information
- Audio and Video Systems
- Random Signal Analysis

