SCIENCE AND TECHNOLOGY

Medical Electronic Engineering

Objectives
To prepare professionals able to design, select, assess, maintain, and fully utilize prostheses, electronic equipment, and interfaces to measure, control, and process information regarding vital parameters produced within the human body, and to transmit this information to hospitals.

Student Profile
The student in this program should:
- Be able to analyze and synthesize;
- Be creative;
- 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 work mainly in hospitals, rehabilitation centers, orthopedics, analysis laboratories, and any other company requiring the measuring, control, processing, and transmission of information regarding vital parameters of the human body. In addition, they will be able to work at research centers and institutions of secondary education and higher learning, or create their own company for design and/or maintenance.

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
-Morphology
-Acoustics and Optics

Sixth Semester
-Signal Amplification
-Microprocessors and Microcontrollers Architecture
-Analogue Electronics
-Control Theory
-Chemistry
-Physiology
-Biophysics

Seventh Semester
-Systems Design with Microprocessors and Microcontrollers
-Power Electronics
-Measuring and Instrumentation
-Electromedical Equipment I
-Microcomputers
-Ergonomics
-Interfaces and Peripherals

Eighth Semester
-Business Development
-Internship
-Professional Ethics
-Analytical Instrumentation
-Interface Design
-Electromedical Equipment II
-Systems Design with Microprocessors and Microcontrollers II