

Industrial and Systems Engineering

Objectives

To provide graduates with the tools and abilities necessary to contribute to the modernization and effectiveness of industrial production, such as perfecting processes in order to meet quality standards and satisfy the needs of society.

Student Profile

The student in this program should:

- Be creative;
- Be proactive;
- Be observant;
- Have mental agility;
- Be able to analyze and synthesize;
- Be constantly up-to-date on cultural, social, and economic issues.

Areas for Potential Employment

Graduates of this program will be able to work in the following industries: textile, footwear, chemicals, metal-mechanics, automotive, and food. They will also be qualified to work in banking, brokerage firms, and other kinds of companies.

First Semester

- Algebra and Analytical Geometry
- Differential and Integral Calculus
- Logic
- Introduction to Computing
- Introduction to Engineering
- Techniques for Oral and Written Expression

Second Semester

- Linear Algebra
- Vectorial Calculus
- Statics
- Modern Physics
- Computer Programming
- Administration

Third Semester

- Economics
- Dynamics
- Differential Equations
- Chemistry
- Philosophical Anthropology
- Electricity and Magnetism
- Drawing

Fourth Semester

- Probability and Statistics
- Numerical Methods
- Economic Engineering
- Electric Circuits
- Thermodynamics and Thermal Machines
- Project Analysis
- Cost Accounting

Fifth Semester

- Quality Systems
- Systems Engineering
- Electrical Installations
- Materials Engineering
- Applied Statistics
- Manufacturing Processes

Sixth Semester

- Quality Control
- Marketing
- Productive Systems Design
- Materials Resistance
- Operations Research I
- Environmental Engineering
- Human Behavior in Organizations

Seventh Semester

- Finance
- Business Development
- Production Planning and Control
- Industrial Engineering
- Operations Research II
- Strategic Planning
- Elective

Eighth Semester

- Project Planning and Assessment
- Professional Ethics
- Internship
- Computer-Integrated Manufacturing
- Elective
- Elective

Elective Subjects

Specialty Area: Computer Science

- Systems Analysis and Design I
- Systems Analysis and Design II
- Database Design

Specialty Area: Finance

- The Mexican Financial System
- Microeconomics
- Macroeconomics

Specialty Area: Human Resources

- Leadership
- Industrial Psychology
- Labor Laws

Specialty Area: Production Automation

- Industrial Electronics: Special Topics in Control
- Numerical-Control Machines
- Optimization of Industrial Processes

Specialty Area: Marketing

- Products, Prices, and Channels
- Advertising and Sales
- Marketing Strategies

