

Chemical Engineering

Objectives

To prepare professionals capable of designing, operating, controlling, and effectively utilizing transformational processes in order to obtain products and services that are beneficial to society, via the application of concepts essential to chemical engineering, including the criteria of optimal use of energy resources and protection of the environment.

Areas for Potential Employment

Graduates of this program will be able to work in a wide range of areas within the chemical industry: pharmaceuticals, food, petroleum, rubber, electronics, metallurgy, textiles, and many others in which they will be able to work in production and management. They will also be trained: to research and develop new products; in sales; and to provide technical consultation regarding chemical processes and products.

Student Profile

The student in this program should:

- Enjoy science;
- Be able to analyze and synthesize;
- Be enterprising;
- Enjoy doing research;
- Be able to work in groups.

First Semester

- General Chemistry
- Physics
- Calculus
- Algebra
- Programming

Second Semester

- Inorganic Chemistry
- Undulatory Systems
- Advanced Calculus
- Physical Chemistry I
- Analysis I
- Basic Science

Third Semester

- Organic Chemistry I
- Matter and Energy Balances
- Differential Equations
- Physical Chemistry II
- Analysis II

Fourth Semester

- Organic Chemistry II
- Transporting Phenomena
- Numerical Methods
- Thermodynamics
- Instrumental Analysis
- The Logic and Philosophy of Science

Fifth Semester

- Organic Chemistry III
- Flow of Fluids
- Electrochemistry and Surfaces
- Physicochemical Balance
- Statistics
- Philosophical Anthropology

Sixth Semester

- Kinetics and Catalysis
- Heat Transfer
- Polymers
- Mechanical Separation
- Mass Transfer I
- Design by Computer

Seventh Semester

- Reactors Engineering I
- Industrial Engineering
- Equipment Design
- Electrical Engineering
- Mass Transfer II
- Simulation and Optimization

Eighth Semester

- Reactors Engineering II
- Quality Engineering
- Services Engineering
- Process Control
- Industrial Processes
- Professional Ethics

Ninth Semester

- Industrial Safety
- Environmental Engineering
- Projects Engineering
- Materials Engineering
- Internship