



BACHELOR OF SCIENCE Industrial Engineering

The Bachelor of Science in Industrial Engineering (BS IE) equips students with fundamental core Engineering competencies (i.e., physical and social sciences, mathematics, and allied courses) integrated with mandatory Industrial Engineering courses necessary to enable IE students to describe the detailed and dynamic complexity of real manufacturing and service systems. The understanding of the essence of the systems and its components activates the student's ability to discern problems and identify root causes, which then increase the effectiveness of the recommendations to improve the system.

On top of those core and professional courses, the program is augmented with electives necessary to stay relevant and updated with the changes in the competency needs in the industry. These are also in place to further the student's interest in the three major clusters of the program: (1) Production Engineering, (2) Organizational and Decision Sciences, and (3) Human Factors Engineering.

The Program in Industrial Engineering builds competencies for these jobs:

- Customer Service Engineers
- Educators
- Ergonomists
- Logistics/Supply Chain Managers
- Management System Engineers
- Methods Engineers
- Manufacturing Engineers
- Operations Engineers
- Operations Research Analysts
- Planning Engineers
- Project Engineers
- Quality Assurance Engineers
- Research Engineers
- Systems Analysts
- Technopreneurs



UNIVERSITY of SAN CARLOS
SCIENTIA • VIRTUS • DEVOTIO

CORE COURSES

- Differential Calculus
- Integral Calculus
- Differential Equation with IE Applications
- Computer Aided Drafting
- Principles of Economics
- Physics for Engineers
- Chemistry for Engineers
- Engineering Mechanics
- Managerial Accounting
- Programming for IE
- Financial Accounting
- Engineering Economics
- Technopreneurship
- Computer Fundamentals and Programming
- Thermodynamics
- Elementary Electrical Engineering
- Occupational Safety and Health
- Environmental Science

PROFESSIONAL COURSES

- Industrial Organization and Management
- Industrial Materials and Processes
- Statistical Analysis
- Industrial Statistics Applications
- Work Systems
- Advanced Mathematics
- Deterministic Models in Decisions Sciences
- Stochastic Models in Decision Sciences
- Physical Ergonomics
- Cognitive Ergonomics
- Quality Management Systems
- Project Management
- Market Research and Product/Service Development
- Industrial Simulations
- Operations Management
- Human Resource Management
- Research Techniques and Design
- Feasibility Study
- Supply Chain Management
- Information Systems

OJT AND RESEARCH SUBJECTS

- Industrial Engineering Research Project
- Industrial Engineering Practice (On-job-Training)

