



SPECIALIST CERTIFICATIONS

- Technological Innovation
- Business Analytics
- Supply Chain Management
- Engineering Project Management
- Business Engineering

SCHOOL OF ENGINEERING



INDUSTRIAL ENGINEERING

The Industrial Engineering Undergraduate Program trains well-rounded professionals equipped to efficiently manage companies, driven by a culture of innovation, strong skills, and expertise in sustainable technologies. Our University's education enables them to become process experts and organizational leaders, with professionalism grounded in ethical principles, a commitment to business competitiveness, and a vision focused on societal development.

| LEVEL 1 | LEVEL 2 | LEVEL 3 | LEVEL 4 | LEVEL 5 | LEVEL 6 | LEVEL 7 | LEVEL 8 | LEVEL 9 | LEVEL 10 |
|-----------------------------------|----------------------------------|-------------------------------------|--------------------------------|---|-----------------------------------|----------------------------|---------------------------------|---------------------------------|----------------------------------|
| BASIC MATHEMATICS 5 | CALCULUS I 5 | APPLIED ARTIFICIAL INTELLIGENCE * 3 | STATISTICS AND PROBABILITY * 4 | OPERATIONS RESEARCH I * 4 | OPERATIONS RESEARCH II * 4 | FINANCIAL ENGINEERING 3 | PROCESS SIMULATION 4 | ETHICS AND HUMAN MANAGEMENT 3 | APPLIED ENGINEERING PROJECT II 4 |
| RESEARCH METHODOLOGIES 3 | LINEAR ALGEBRA 3 | ORGANIZATIONAL SYSTEMS * 2 | CALCULUS III * 3 | OPERATIONS AND LOGISTICS FUNDAMENTALS 4 | ERGONOMICS AND WORK DESIGN 4 | FACILITIES DESIGN 3 | PREDICTIVE DATA MODELING 3 | APPLIED ENGINEERING PROJECT I 4 | STRATEGIC MANAGEMENT 4 |
| PERSONAL AND SOCIAL DEVELOPMENT 3 | ECONOMICS AND BUSINESS 3 | COMPUTER-AIDED DESIGN 3 | OPERATIONS COSTING * 3 | ECONOMIC ENGINEERING 4 | OPERATIONS CONTROL AND PLANNING 4 | BUSINESS INTELLIGENCE 3 | INTEGRATED MANAGEMENT SYSTEMS 3 | COMMERCIAL ENGINEERING 3 | ELECTIVE 3 |
| LANGUAGE AND COMMUNICATION I 4 | LANGUAGE AND COMMUNICATION II 3 | GENERAL CHEMISTRY 4 | PROGRAMMING FUNDAMENTALS 3 | ELECTRICITY AND ELECTRONICS 3 | ENGINEERING INNOVATION 3 | LOGISTICS SYSTEMS MODELS 4 | ENGINEERING PROBLEM ANALYSIS 3 | ELECTIVE 3 | ELECTIVE 3 |
| INTRODUCTION TO ENGINEERING 3 | SOCIAL AND POLITICAL PROCESSES 3 | PHYSICS I 5 | PHYSICS II 5 | DESIGN OF EXPERIMENTS 4 | INDUSTRIAL PROCESSES 4 | QUALITY 3 | INDUSTRIAL AUTOMATION 3 | ELECTIVE 3 | ELECTIVE 3 |
| CIVIC ETHICS 2 | PHILOSOPHY TOPICS 3 | CALCULUS II * 5 | MECHANICS 4 | DIFFERENTIAL EQUATIONS 3 | ELECTIVE 3 | MANUFACTURING PROCESSES 3 | PROJECT MANAGEMENT * 3 | MANDATORY CREDITS 10 | MANDATORY CREDITS 8 |
| MANDATORY CREDITS 20 | MANDATORY CREDITS 20 | MANDATORY CREDITS 22 | MANDATORY CREDITS 22 | MANDATORY CREDITS 22 | MANDATORY CREDITS 19 | ELECTIVE 3 | ELECTIVE 3 | | |
| | | | | | | MANDATORY CREDITS 19 | MANDATORY CREDITS 19 | | |

Elective Subjects:

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|--|---|--------------------------------------|--|------------------------------|---|--|
| GLOBALIZATION, CAPITALISM, AND SCIENCE IN THE CONTEMPORARY WORLD 3 | DESIGN PROJECT MANAGEMENT 3 | SUPPLY CHAIN MANAGEMENT 3 | PROJECT IMPLEMENTATION MANAGEMENT 3 | DESIGN AND PROTOTYPE 3 | ERP PROCESS WORKSHOP 3 | B2B MANAGEMENT 3 |
| LEADERSHIP WORKSHOP 3 | INDUSTRIAL TECHNOLOGY 3 | PROCUREMENT AND SUPPLY MANAGEMENT 3 | INTERNATIONAL TRADE MANAGEMENT 3 | ROBOTIC PROCESS AUTOMATION 3 | TRANSPORTATION AND DISTRIBUTION ENGINEERING 3 | DIGITAL MARKETING TOOLS 3 |
| ENGINEERING PROGRAMMING 3 | DIGITAL TRANSFORMATION 3 | BUSINESS GAME 3 | CREATIVITY, INNOVATION, AND ENTREPRENEURSHIP 3 | MACHINE LEARNING 3 | SERVICE OPERATION MANAGEMENT 3 | INDUSTRIAL SUSTAINABILITY 3 |
| MANAGEMENT INFORMATION SYSTEMS 3 | INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS 3 | PROJECT EVALUATION AND FORMULATION 3 | SUSTAINABLE PROJECT DESIGN 3 | IT TOOLS 3 | RESOURCES MANAGEMENT 3 | OCCUPATIONAL SAFETY, HEALTH, AND ORGANIZATIONAL WELL-BEING 3 |
| MANAGERIAL SKILLS WORKSHOP 3 | BUSINESS INTELLIGENCE STRATEGY 3 | AGILE METHODOLOGIES 3 | PROGRAMMING TECHNOLOGY 3 | LEAN SIX SIGMA 3 | RISK MANAGEMENT AND PORTFOLIO 3 | |

To choose these subjects, it is necessary to meet the requirements set out in this curriculum.

Mandatory subjects of the General Studies Program

Mandatory subjects of the Industrial Engineering Undergraduate Program

Elective subjects of the Industrial Engineering Undergraduate Program

Subjects in common among the undergraduate programs of the School**



** The School of Engineering comprises the Civil Engineering, Industrial Engineering, Systems Engineering, Mechatronics Engineering, and Environmental Engineering undergraduate programs.

| CREDIT SUMMARY | CREDITS | TYPE OF CREDIT |
|-------------------------|---------|----------------|
| General Studies | 40 | Mandatory |
| School | 141 | Mandatory |
| Total Elective Subjects | 24 | Elective |
| Total Credits | 205 | |

Subject to curricular change.