

# Bachelor of Science in Industrial Engineering

## 2023-2024 Catalog

Total Credits Required =122 or 123

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### 1. Communications (9 cr.)

- \_\_\_\_\_ SP CM 212 Fundamentals of Public Speaking (3)
- \_\_\_\_\_ ENGL 314 Technical Communication (3)
- \_\_\_\_\_ ENGL 250 Written, Oral, Visual, & Electronic Composition (3)

### 2. Social Science & Humanities (12 cr.)\*

- \_\_\_\_\_ U.S. Diversity (3)
- \_\_\_\_\_ International Perspectives (3)
- \_\_\_\_\_ (3)
- \_\_\_\_\_ (3)

*Note: Six credits in the SSH area must be 200-level or above, and six credits must form a sequence of prerequisite or related courses.*

*\*See the list of courses approved by the IMSE Department.*

### 3. Basic Program (27 cr.)

- \_\_\_\_\_ CHEM 167 General Chemistry for Engineering Students (4)  
or CHEM 177 General Chemistry and Chemistry Lab (4)
- \_\_\_\_\_ ENGL 150 Critical Thinking and Communication (3)
- \_\_\_\_\_ ENGR 101 Engineering Orientation (R)
- \_\_\_\_\_ I E 148 Information Engineering (3)
- \_\_\_\_\_ LIB 160 Information Literacy (1)
- \_\_\_\_\_ MATH 165 Calculus I (4)
- \_\_\_\_\_ MATH 166 Calculus II (4)
- \_\_\_\_\_ PHYS 231 and 231L Introduction to Classical Physics I (5)

### 4. Math and Physical Science (17 cr.)

- \_\_\_\_\_ MATH 265 Calculus III (4)
- \_\_\_\_\_ MATH 267 Elementary Differential Equations & Laplace  
Transforms (4)
- \_\_\_\_\_ PHYS 232 and 232L Introduction to Classical Physics II (5)
- \_\_\_\_\_ STAT 231 Probability & Statistical Inference for Engr (4)

### 5. Industrial Engineering Core (34 cr.)

- \_\_\_\_\_ I E 222 Design & Analysis Methods for System  
Improvements (3)
- \_\_\_\_\_ I E 248 Engineering System Design, Manufacturing  
Processes & Specifications (3)
- \_\_\_\_\_ I E 271 Applied Ergonomics & Work Design (3)
- \_\_\_\_\_ I E 305 Engineering Economic Analysis (3)
- \_\_\_\_\_ I E 312 Optimization (3)
- \_\_\_\_\_ I E 341 Production Systems (3)
- \_\_\_\_\_ I E 348 Solidification Processes (3)
- \_\_\_\_\_ I E 361 Statistical Quality Assurance (3)
- \_\_\_\_\_ I E 413 Stochastic Modeling, Analysis & Simulation (4)
- \_\_\_\_\_ I E 441 Industrial Engineering Design (3)
- \_\_\_\_\_ I E 448 Manufacturing Systems Engineering (3)

### 6. Other Remaining Courses (26 or 27 cr.)

- \_\_\_\_\_ MAT E 273 Principles of Materials Sci & Engineering (3)
- \_\_\_\_\_ C E 274 Engineering Statics (3)
- \_\_\_\_\_ IE 432 Industrial Automation (3) OR: E E 442 Introduction to  
Circuits and Instruments (2)
- \_\_\_\_\_ M E 231 Engineering Thermodynamics (3)
- \_\_\_\_\_ Focus Electives (6)
- \_\_\_\_\_ Management Elective (3)
- \_\_\_\_\_ Engineering Topic Electives (6)

### 7. Required Seminar

- \_\_\_\_\_ I E 101 Industrial Engineering Profession (R)