# INDUSTRIAL ENGINEERING AND MANAGEMENT, BSIE

**Requirements for Students Matriculating in or before Academic Year 2019-2020.** Learn more about University Academic Regulation 3.1 (http://catalog.okstate.edu/university-academic-regulations/#matriculation).

**Minimum Overall Grade Point Average:** 2.00
**Total Hours:** 123

| Code | Title | Hours |
|---|---|---|
| **General Education Requirements** | | |
| All General Education coursework requirements are satisfied upon completion of this degree plan | | |
| *English Composition* | | |
| ENGL 1113 | Composition I [1, 2] | 3 |
| or ENGL 1313 | Critical Analysis and Writing I | |
| ENGL 3323 | Technical Writing | 3 |
| *American History & Government* | | |
| Select one of the following: | | 3 |
| HIST 1103 | Survey of American History | |
| HIST 1483 | American History to 1865 (H) | |
| HIST 1493 | American History Since 1865 (DH) | |
| POLS 1113 | American Government | 3 |
| *Analytical & Quantitative Thought (A)* | | |
| MATH 2144 | Calculus I (A) [2] | 4 |
| MATH 2153 | Calculus II (A) [2] | 3 |
| MATH 2163 | Calculus III [2] | 3 |
| or MATH 2233 | Differential Equations | |
| *Humanities (H)* | | |
| Courses designated (H) | | 6 |
| *Natural Sciences (N)* | | |
| Must include one Laboratory Science (L) course | | |
| CHEM 1414 | General Chemistry for Engineers (LN) [2] | 4 |
| PHYS 2014 | University Physics I (LN) [2] | 4 |
| *Social & Behavioral Sciences (S)* | | |
| SPCH 2713 | Introduction to Speech Communication (S) | 3 |
| Select 3 hours of any course designated (S) | | 3 |
| **Hours Subtotal** | | 42 |
| **Diversity (D) & International Dimension (I)** | | |
| May be completed in any part of the degree plan | | |
| Select at least one Diversity (D) course | | |
| Select at least one International Dimension (I) course | | |
| **College/Departmental Requirements** | | |
| *Basic Science* | | |
| PHYS 2114 | University Physics II (LN) [2] | 4 |
| *Engineering* | | |
| ENGR 1111 | Introduction to Engineering [2] | 1 |
| ENGR 1322 | Engineering Design with CAD [2] | 2 |
| or ENGR 1332 | Engineering Design with CAD for MAE | |
| ENGR 1412 | Introductory Engineering Computer Programming [2] | 2 |
| *Engineering Science* | | |
| ENSC 2113 | Statics [2] | 3 |
| Select two of the following: | | 6 |
| ENSC 2123 | Elementary Dynamics | |
| ENSC 2143 | Strength of Materials | |
| ENSC 2213 | Thermodynamics | |
| ENSC 2613 | Introduction to Electrical Science | |
| ENSC 3213 | Computer Based Systems in Engineering | |
| ENSC 3233 | Fluid Mechanics | |
| *Industrial Engineering & Management* | | |
| IEM 2903 | Introduction to Manufacturing and Service Systems [2] | 3 |
| IEM 3103 | Probability and Statistics for Engineers I [2] | 3 |
| IEM 3703 | Probability and Statistics for Engineers II [2] | 3 |
| **Hours Subtotal** | | 27 |
| **Major Requirements** | | |
| *Mathematics* | | |
| MATH 3013 | Linear Algebra (A) | 3 |
| *Engineering Science* | | |
| ENSC 3313 | Materials Science | 3 |
| Select 3 hours of the following: | | 3 |
| ENSC 2123 | Elementary Dynamics | |
| ENSC 2143 | Strength of Materials | |
| ENSC 2213 | Thermodynamics | |
| ENSC 2613 | Introduction to Electrical Science | |
| ENSC 3213 | Computer Based Systems in Engineering | |
| ENSC 3233 | Fluid Mechanics | |
| *Industrial Engineering & Management* | | |
| IEM 3303 | Manufacturing Processes | 3 |
| IEM 3403 | Collaborative Engineering Project Management | 3 |
| IEM 3503 | Engineering Economic Analysis | 3 |
| IEM 3523 | Engineering Cost Information and Control Systems | 3 |
| IEM 3813 | Work Design, Ergonomics, and Human Performance | 3 |
| IEM 4013 | Operations Research | 3 |
| IEM 4103 | Quality Control | 3 |
| IEM 4113 | Industrial Experimentation | 3 |
| IEM 4203 | Facilities and Material Handling System Design | 3 |
| IEM 4413 | Industrial Organization Management | 3 |
| IEM 4613 | Production Planning and Control Systems | 3 |
| IEM 4713 | Systems Simulation Modeling | 3 |
| IEM 4723 | Information Systems Design and Development | 3 |
| IEM 4913 | Senior Design Projects | 3 |
| Select 3 hours of the following: | | 3 |
| IEM 4163 | Service Systems and Processes | |
| IEM 4623 | Supply Chain Management | |
| IEM 4953 | Industrial Assessment and Improvement | |
| IEM 4990 | Selected Topics in Industrial Engineering and Management (3) | |

| | |
|---|---|
| **Hours Subtotal** | 54 |
| Total Hours | 123 |

1 If a "B" or higher is not earned in ENGL 1113 Composition I, ENGL 1213 Composition II or ENGL 1413 Critical Analysis and Writing II is also required (per Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations)).

2 Courses that must be completed prior to admission to professional school.

# Other Requirements

## Admission to Professional School (required)

Refer to the OSU Catalog corresponding to your matriculation date for detailed admissions requirements.

## Graduation Requirements

a. A minimum GPA of 2.00 is required in all courses applied to Professional School coursework.

b. A 'C' or better is required in each course that is a prerequisite or corequisite for an IEM course and in technical courses listed, whether taken prior to admission to Professional School or not.

These courses include:

| Code | Title | Hours |
|---|---|---|
| CHEM 1414 | General Chemistry for Engineers (LN) | 4 |
| ENGR 1111 | Introduction to Engineering | 1 |
| ENGR 1322 | Engineering Design with CAD | 2 |
| or ENGR 1332 | Engineering Design with CAD for MAE | |
| ENGR 1412 | Introductory Engineering Computer Programming | 2 |
| ENSC 2113 | Statics | 3 |
| ENSC 3313 | Materials Science | 3 |
| MATH 2144 | Calculus I (A) | 4 |
| MATH 2153 | Calculus II (A) | 3 |
| MATH 2163 | Calculus III | 3 |
| or MATH 2233 | Differential Equations | |
| MATH 3013 | Linear Algebra (A) | 3 |
| PHYS 2014 | University Physics I (LN) | 4 |
| PHYS 2114 | University Physics II (LN) | 4 |
| IEM 2903 | Introduction to Manufacturing and Service Systems | 3 |
| IEM 3103 | Probability and Statistics for Engineers I | 3 |
| IEM 3703 | Probability and Statistics for Engineers II | 3 |
| IEM 4013 | Operations Research | 3 |
| IEM 4713 | Systems Simulation Modeling | 3 |

c. The major engineering design experience is satisfied by IEM 4913 Senior Design Projects.

# Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
- Degrees that follow this plan must be completed by the end of Summer 2025.