

# INDUSTRIAL ENGINEERING AND MANAGEMENT, BSIE

**Requirements for Students Matriculating in or before Academic Year 2022-2023.** 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
<b>General Education Requirements</b>		
All General Education coursework requirements are satisfied upon completion of this degree plan		
<i>English Composition</i>		
ENGL 1113	Composition I <sup>1</sup>	3
or ENGL 1313	Critical Analysis and Writing I	
ENGL 3323	Technical Writing	3
<i>American History &amp; Government</i>		
POLS 1113	American Government	3
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)	
<i>Analytical &amp; Quantitative Thought (A)</i>		
MATH 2144	Calculus I (A)	4
MATH 2153	Calculus II (A)	3
MATH 2163	Calculus III	3
or MATH 2233	Differential Equations	
<i>Humanities (H)</i>		
Courses designated (H)		6
<i>Natural Sciences (N)</i>		
Must include one Laboratory Science (L) course		
CHEM 1414	General Chemistry for Engineers (LN)	4
or CHEM 1515	Chemistry II (LN)	
PHYS 2014	University Physics I (LN)	4
PHYS 2114	University Physics II (LN)	4
<i>Social &amp; Behavioral Sciences (S)</i>		
SPCH 2713	Introduction to Speech Communication (S)	3
<b>Hours Subtotal</b>		<b>43</b>
<b>Diversity (D) &amp; International Dimension (I)</b>		
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		
<b>College Requirements</b>		
<i>Basic Science</i>		
<i>Engineering</i>		
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

<i>Engineering Science</i>		
ENSC 2113	Statics	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 3233	Fluid Mechanics	
<b>Hours Subtotal</b>		<b>14</b>
<b>Major Requirements</b>		
<i>Mathematics</i>		
MATH 3013	Linear Algebra (A)	3
<i>Engineering Science</i>		
ENSC 3313	Materials Science	3
<i>Industrial Engineering &amp; Management</i>		
IEM 2903	Introduction to Industrial Engineering	3
IEM 3103	Probability and Statistics for Engineers I	3
IEM 3303	Manufacturing Processes	3
IEM 3403	Engineering Project Management	3
IEM 3503	Engineering Economic Analysis	3
IEM 3523	Engineering Cost Information and Control Systems	3
IEM 3703	Probability and Statistics for Engineers II	3
IEM 3713	Software Programming for Data Analytics	3
IEM 3813	Work Design, Ergonomics, and Human Performance	3
IEM 4013	Operations Research	3
IEM 4103	Quality Control and Reliability Analysis	3
IEM 4113	Industrial Experimentation	3
IEM 4203	Facilities and Material Handling System Design	3
IEM 4613	Production Planning and Control Systems	3
IEM 4623	Supply Chain and Logistics	3
IEM 4713	Systems Simulation Modeling	3
IEM 4723	Information Systems Design and Development	3
IEM 4913	Senior Design Projects	3
Select 6 hours of the following: 6		
IEM 4163	Service Systems and Processes	
IEM 4783	Applied Statistical Analysis in R for Engineers	
IEM 4823	Human Factors Engineering	
IEM 4953	Industrial Assessment and Improvement	
IEM 4990	Selected Topics in Industrial Engineering and Management (3)	
Any OSU CEAT, CS, Math or Stat course (3000 level or higher) with Advisor Approval		
<b>Hours Subtotal</b>		<b>66</b>
<b>Total Hours</b>		<b>123</b>

1

If a "B" or higher is not earned in ENGL 1113 Composition I or ENGL 1313 Critical Analysis and Writing I, then 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/>)).

## Other Graduation Requirements

a. A minimum Technical GPA of 2.00. The Technical GPA is calculated from all courses counting in the curriculum with an IEM prefix, or substitutions for these courses.

b. A grade of 'C' or better is required in each course that is a prerequisite to another required course and also in MATH 2163/MATH 2233 and PHYS 2114.

These courses include:

Code	Title	Hours
CHEM 1414 or CHEM 1515	General Chemistry for Engineers (LN) Chemistry II (LN)	4-5
ENGR 1111	Introduction to Engineering	1
ENGR 1322 or ENGR 1332	Engineering Design with CAD Engineering Design with CAD for MAE	2
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 or MATH 2233	Calculus III Differential Equations	3
MATH 3013	Linear Algebra (A)	3
PHYS 2014	University Physics I (LN)	4
PHYS 2114	University Physics II (LN)	4
IEM 2903	Introduction to Industrial Engineering	3
IEM 3103	Probability and Statistics for Engineers I	3
IEM 3403	Engineering Project Management	3
IEM 3503	Engineering Economic Analysis	3
IEM 3703	Probability and Statistics for Engineers II	3
IEM 4013	Operations Research	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 2028.