# Industrial Engineering 2025-2026 Catalog: Suggested Course Sequence

| Degrees | Semester 1 | Semester 2 | Semester 3 | Semester 4 | Semester 5 | Semester 6 | Semester 7 | Semester 8 |
|---|---|---|---|---|---|---|---|---|
| **B.S. in IE 123 credits** | **MATH 1650 Calc I 4 cr** Prereq: Minimum C- in MATH 1430 or satisfactory score on placement exam | **MATH 1660 Calc II 4 cr** Prereq: Minimum C- in MATH 1650 or satisfactory placement on ALEKS (80+) and Canvas Calculus II placement exam | **MATH 2650 Calc III 4 cr** C- or better in MATH 1660 or MATH 1660H | **MATH 2670 Diff Eq/Lap 4 cr** C- or better in MATH 1660 or MATH 1660H | **IE 3050 Engr Econ Analysis 3 cr** MATH 1660 | **IE 3480 Solidif Processes 3 cr** IE 2480 MATE 2730 *Spring Only* | **IE 4130 Stoch Modeling 4 cr** Math 2650 Stat 2310 *Fall Only* | **IE 4410 IE Design 3 cr** IE 2480, IE 2710, IE 3610, Credit/Enrollment in IE 3410, IE 4130, IE 4480 |
| | **Social Sciences and Humanities Elective 3 cr** | **PHYS 2310 & PHYS 2310L Classical Phys I 5 cr** Prereq: [MATH 1650 OR (MATH 1630X AND 1640X)] AND Credit or concurrent enrollment in MATH 1660 | **IE 2480 Intro Mfg Processes 3 cr** MATH 166, PHYS 2310 &2310L, Credit/enrollment in IE 1020, MAT E 2730 *Fall Only* | **STAT 2310 Prob & Stat 4 cr** Prereq: Credit or Coenrollment in MATH 2650 | **IE 3120 Optimization 3 cr** Credit/enrollment in MATH 2670 *Fall Only* | **IE 3610 Quality Assurance 3 cr** Prereq: STAT 2310, STAT 3010, STAT 3260, or STAT 5101 | **ENGL 3140 Tech Comm 3 cr** Prereq: ENGL 2500 and Junior classification | **IE 4480 Manuf Sys Engr 3 cr** IE 2480 *Spring Only* |
| | **CHEM 1670 Engr Chem 4 cr** MATH 1400 & CHEM 500 or HS Equivalent | **Social Sciences and Humanities Elective 3 cr** | **MATE 2730 Principles of Materials Science 3 cr** Prereq: (CHEM 1670 or CHEM 1770); MATH 1650 | **IE 2220 Design & Analysis Sys Improvements 3 cr** Credit/ enrollment in IE 2710 *Spring Only* | **IE 3410 Production Systems 3 cr** STAT 2310, Credit/enrollment in IE 3120 *Fall Only* | **IE Program Elective 3 cr** | **ME 2310 Engineering Thermodynamics I 3 cr** MATH 1660, CHEM 1670, PHYS 2310 & PHYS 2310 L | **IE Program Elective 3 cr** |
| | **IE 1600 Information Engr 3 cr** Credit/enrollment in MATH 1430 | **ENGL 1500 Critical Thinking and Communication 3 cr** | **PHYS 2320 & PHYS 2320 L Classical Phys II 5 cr** Prereq: MATH 1660; PHYS 2310 or PHYS 2410 | **IE 2710 Appl Ergonomics 3 cr** PHYS 2310 & PHYS 2310L *Spring Only* | **IE 4320 Ind. Automation 3cr** PHYS 2320 & 232L *Fall Only* | **Social Sciences and Humanities Elective 3 cr** | **IE Program Elective 3 cr** | **IE Program Elective 3 cr** |
| | **ENGR 1010 Orientation R cr** | **LIB 1600 Intro to College Level Research 1 cr** | **ENGL 2500 or ENGL 2500H Written, Oral, Visual, & Electronic Composition 3 cr** C or better in ENGL 1500 or placement, Credit/enrollment in LIB 1600 | | **SPCM 2120 Fund of Public Speaking 3 cr** | **CE 2740 Statics 3 cr** Prereq: PHYS 2310 or PHYS 2310H; PHYS 2310L; and (Credit or concurrent enrollment in MATH 1660 or MATH 1660H) | **Social Sciences and Humanities Elective 3 cr** | **IE Program Elective 3 cr** |
| | | **IE 1020 I E Orient R cr** | | | | | | |
| **123 Total Credits** | **14 cr** | **16 cr** | **18 cr** | **14 cr** | **15 cr** | **15cr** | **16 cr** | **15 cr** |

Applicable prerequisites and co-requisites are listed under each course.
Note: Please verify all prerequisites and semester offerings with current course catalog
Elective List can be found on the IMSE website at **http://www.imse.iastate.edu/undergraduate-program/advising/**
Course Descriptions can be found at: **http://catalog.iastate.edu/azcourses/**
Light blue shading indicates Basic Program classes for all Engineering Majors; Dark blue indicates the IE core, course descriptions on the back of this page