Bachelor of Science in Industrial Engineering
Degree Requirements Effective AY 2017-2018

Students may choose to follow any catalog year requirements from their first year to present, but may not mix and match requirements from different catalog years

General Classes

Mathematics — 4 courses

MATH 220 Differential Calculus of One Variable Functions
MATH 224 Integral Calculus of One Variable Function
MATH 230 Differential Calculus of Multivariable Functions
MATH 234 Multiple Integration and Vector Calculus

Design and Communication — 3 courses

IDEA 106-1,2/Engl 106-1,2
One of **COMM ST 102, PERF ST 103, or PERF ST 203**

Basic Sciences — 4 units

4 total units
Physics: PHYSICS 135-2,3; 136-2,3; 239
Biological Sci: BIOL SCI 215, 217, 219, 220, 221, 222; CHEM ENG 275
Chemistry: CHEM 131, 132, 141, 142, 151, 152, 161, 162, 171, 172, 181, 182, 210-1,2.
Earth Sciences/Astronomy: EARTH 201, 202, 203; ASTRON 220
At most 2 units in Earth Sciences/Astronomy; at most 3 in any other area
Lab courses may count only in combination with corresponding lectures

Engineering Analysis & Computer Proficiency — 4 courses

GEN ENG 205-1,2,3,4 Engineering Analysis

Basic Engineering Must cover 4 categories

Required by IE — 3 courses

EECS 211 (Comp Programming)
EECS 317 (Comp Programming)
CIV ENV 205 (Sys Eng and Analysis)

Additional courses — 2 courses

Recommended Choices:
EECS 202 (Electrical Science)
EECS 203 or 205 (Comp Architecture)
BME 271 or **Civ Eng 216** (Fluids/Solids)
MAT SCI 201 (Material Science)

Additional options may be found in the undergraduate catalog. Duplicates will not count (see your advisor)

Major Courses

Introductory Programming — 1 course

EECS 111 Fundamentals of Computer Prog.

Probability and statistics — 2 courses

	Pre-requisites
IEMS 202 Probability	MATH 234
IEMS 303 Statistics I	IEMS 202

Senior Design Project — 2 courses

IEMS 393-1 Industrial Engineering Design Project	Senior standing
IEMS 393-2 Industrial Engineering Design Project	Senior Standing

Must be taken in consecutive quarters

Operations Research — 3 courses

	Pre-Requisites
IEMS 313 Foundations of Optimization	EA1, Math 230
IEMS 315 Stochastic Models	EA1, IE 303
IEMS 317 Discrete-Event Systems Simulation	IE 303; 310 or 315

Production and Logistics — 1 course

IEMS 381 Supply-Chain Modeling and Analysis	IE 313
or IEMS 382 Production Planning and Scheduling	IE 202; 310 or 313
or IEMS 383 Service Operations Management	IE 313, 315
or IEMS 385 Intro to Health Systems Management	IE 303, 313

Technical Electives

Industrial Engineering/ Operations Research — 3 courses

IEMS 304, 305, 306, 307, 308, 365, 373, 381, 382, 383, 385

Management Science — 2 courses

IEMS 325, 341, 342, 343, 345

GTEs by permission only:
P/N and IEMS 399 only permitted in GTE, at most 2 courses

General Technical Elective — 2 courses

Any 200 level or higher engineering course
Econ 308; 309; 316; 337; 339; 349; 350; 355; 361; 362; 380-1,2; 381-1,2; 383
IMC 303
LOC 306, 310
Math 300-0; 320-1,2,3; 330-1,2,3; 364; 366-1, 2
Sociology 302
Stats 320-2, 3; 325, 350, 351
Kellg-Fe 310, 312, 314, 316
Kellg-Ma 322, 324, 326

Social Sciences-Humanities (Theme) — 7 courses

-At least 2 Soc Science courses
-At least 2 Humanities courses
-At least 3 courses must be thematically related

Unrestricted Electives — 5 courses

This degree requires 18 total units of engineering credit.
Take note when petitioning to replace degree requirements and talk with your advisor.