Bachelor of Science in Industrial Engineering  
Degree Requirements Effective AY 2010-2011

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

**Mathematics (4 courses)**
- MATH 220  Differential Calculus of One Variable Functions
- MATH 224  Integral Calculus of One Variable Functions
- MATH 230  Differential Calculus of Multivariable Functions
- MATH 234  Multiple Integration and Vector Calculus

**Probability and Statistics (2 courses)**
- IEMS 202  Probability
- IEMS 303  Statistics I

**Operations Research (3 courses)**
- IEMS 313  Deterministic Models & Optimization
- IEMS 315  Stochastic Models & Simulation
- IEMS 317  Discrete-Event Systems Simulation

**Engineering Analysis & Computer Proficiency (4 courses)**
- GEN ENG 205-1,2,3,4  Engineering Analysis

**Basic Sciences (4 courses)**
- 4 courses from at least two of the basic science areas; no more than 2 from earth sciences/astronomy. PHYSICS 135-2 and one quarter of Chemistry are recommended.

**Design and Communications (3 courses)**
- IDEA 106-1,2/Engl 106-1/2
- GEN CMN 102 or 103

**Basic Engineering (5 courses)**
- 3 of the following:
  - EECS 230 Programming for Computer Engineers
  - EECS 317 Data Management & Information Processing
  - EECS 328 Numerical Methods for Engineers
  - IEMS 326 Economics and Finance for Engineers

  Plus 2 additional courses meeting basic engineering requirements* The IE department recommends any 2 below:
  - Comp Arch & Num Methods (EECS 203)
  - Fluids/Solids (BME 271)
  - Fluids/Solids (Civil Eng 216)
  - Materials Science (Mat Sci 201)
  - Systems Analysis (Civil Eng 304)
  - Reliability Engineering (ME 359)

**Production and Logistics (1 course)**
- IEMS 381  Supply-Chain Modeling and Analysis
- or IEMS 382  Production Planning and Scheduling
- or IEMS 383 Service Operations Management

**Senior Design Project (2 courses)**
- IEMS 393-0  Industrial Engineering Design Project
  and one course from:
  - IEMS 390-0  Systems Management
  - IEMS 391-0  Industrial Engineering Design
  - IEMS 392-0  Systems Management Project

**Technical Electives (7 courses - see below)**
- 3 courses chosen from the IE/OR group
- 1 course chosen from the MS group
- 3 engineering courses at the 200 level or higher
  - or any course chosen from the General Technical Elective group

**Social Science-Humanities (7 courses)**

**Unrestricted Electives (5 courses)**

*Basic Engineering. These 5 courses must come from at least 4 of the basic engineering areas. See the undergraduate catalog for how the courses are distributed into areas.

Students must have 18 total engineering credits; see
http://mccormick.northwestern.edu/undergraduate/abet/course_partitioning.php

TECHNICAL ELECTIVES

- 3 courses chosen from the Industrial Engineering/Operations Research (IE/OR) group
- 1 course chosen from the Management Science group (MS)
- 3 engineering courses at the 200-level or higher or any course chosen from the General Technical Elective group (GTE)
- P/N is permitted only in the GTE group (at most 2 courses)
- IEMS 399 is permitted only in the GTE group (at most 2 units)