Bachelor of Science in Industrial Engineering
Degree Requirements Effective AY 2009-2010
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.

Applied Behavioral Science (1 course)
IEMS 340 Field Project Methods
or IEMS 342 Organizational Behavior

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

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

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

Basic Engineering (5 courses)*
3 of the following:
EECS 230 Programming for Computer Engineers
EECS 317 Data Management & Information Processing
or 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)

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)