

## Bachelor of Science in Industrial Engineering Degree Requirements Effective AY 2013-2014

*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*

<b>General Classes</b>	
<u>Mathematics</u> 4 courses	<u>Basic Sciences</u> 4 courses
<b>MATH 220</b> Differential Calculus of One Variable Functions <b>MATH 224</b> Integral Calculus of One Variable Function <b>MATH 230</b> Differential Calculus of Multivariable Functions <b>MATH 234</b> Multiple Integration and Vector Calculus	4 courses from at least 2 basic sciences; Physics: PHYSICS 135-2,3, 335 Biological sciences: BIOL SCI 210-1,2,3; CHEM ENG 275 Chemistry: CHEM 101, 102, 103, 171, 172, 210-1,2 Earth & planetary sciences/astronomy: EARTH 201,202; ASTRON 220 No more than 2 courses in Earth Sciences/Astronomy
<u>Design and Communication</u> 3 courses	<u>Engineering Analysis &amp; Computer Proficiency</u> 4 courses
<b>IDEA 106-1,2/Engl 106-1,2</b> <b>GEN CMN 102</b> OR <b>GEN CMN 103</b> Public Speaking Analysis and Perf of Lit	<b>GEN ENG 205-1,2,3,4</b> Engineering Analysis
<b>Basic Engineering</b> Must cover 4 categories	
3 courses	<u>Suggested courses</u> 2 courses
<b>EECS 230</b> (Comp Programming) <b>EECS 317</b> (Comp Programming) <b>IEMS 326</b> (Sys Eng and Analysis)	<b>EECS 202</b> (Electrical Science) <b>EECS 203</b> (Comp Arch and Num Methods) <i>To find other options, check the Undergraduate Catalog for Basic Engineering courses</i> <b>BME 271, Civ Eng 216</b> (Fluid/Solid) <b>MAT SCI 201</b> (Material Science) <b>CIV ENG 304</b> (Systems Analysis) <b>ME 359</b> (Reliability Engineering)
<b>Major Courses</b>	
<u>Probability and statistics</u> 2 courses	<u>Operations Research</u> 3 courses
Pre-requisites <b>IEMS 202</b> Probability MATH 234 <b>IEMS 303</b> Statistics I IEMS 202	Pre-Requisites <b>IEMS 313</b> Deterministic Models and Optimization EA1, Math 230 <b>IEMS 315</b> Stochastic Models and Simulation EA1, IE 303 <b>IEMS 317</b> Discrete-Event Systems Simulation IE 303; 310 or 315
<u>Senior Design Project</u> 2 courses	<u>Production and Logistics</u> 1 course
<b>IEMS 393-1</b> Industrial Engineering Design Senior standing <b>IEMS 393-2</b> Industrial Engineering Design Project Senior Standing Must be taken in consecutive quarters	<b>IEMS 381</b> Supply-Chain Modeling and Analysis IE 313 <b>IEMS 382</b> Production Planning and Scheduling IE 202; 310 or 313 <b>IEMS 383</b> Service Operations Management IE 313, 315 <b>IEMS 385</b> Intro to Health Systems Engineering IE 303, 313
<u>Applied Behavioral Science</u> 1 course	
<b>IEMS 340</b> Field Proj OR <b>IEMS 342</b> Orgnl Behavior	
<b>Technical Electives</b>	
Industrial Engineering/ Operations Research 3 courses	General Technical Elective 3 courses
IEMS 304, 305, 306, 307, 381, 382, 383, 373, 391	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; 364-0; 366-1, 2 Sociology 302 Stats 325, 350, 351 Kellg-Fe 310, 312, 314, 316 Kellg-Ma 310, 322, 324, 326
Management Science 1 course	
IEMS 325, 340, 341, 342, 390, 392	
<i>GTEs by permission only:</i>	
<i>P/N and IEMS 399 only permitted in GTE, at most 2 courses</i>	
<i>Chicago Field Study and BIP 394, depending on topic</i>	
Social Sciences-Humanities (Theme) 7 courses	
<u>Option 1 for Theme</u> 3-2-2	<u>Option 2 for Theme</u> 5-2
3 related courses	5 related courses
≥ 2 from each SBS, FAL, HSV	≤ 5 from any SBS, FAL, HSV
Unrestricted Electives 5 courses	
<i>Every student needs to have 18 units of engineering credit</i> <i>Take note when petitioning to replace degree requirements and talk with your advisor.</i>	