

**Ohio University**  
**BS in Industrial & Systems Engineering**

**Degree Requirements (beginning Fall 2009)**  
**192 Credits Total**

Freshman Year (48 credits)		
<u>Fall</u>		
Math 263A	Calculus I	4
IT 101	Engineering Drawing	3
Econ 103	Microeconomics	4
COMS 103	Public Speaking	4
or ThAr 113	Acting Fundamentals	

<u>Winter</u>		
Math 263B	Calculus II	4
	Chemistry 121/150/151	4/5
ISE 200	Intro to Computers & IE	4
Phil 130	Introduction to Ethics	4

<u>Spring</u>		
Math 263C	Calculus III	4
	Math/Science Elective	4
ISE 201	Data Mgmt. and Display	4
Eng 151	Freshman Composition	5

Junior Year (46 credits)		
<u>Fall</u>		
ISE 432	Inventory & Mfg. Control I	4
ISE 433	Computer Simulation	4
ISE 441	Operations Research	4
	Math/Science Elective	4

<u>Winter</u>		
ISE 412	Six Sigma	4
ISE 435	Quality Control & Reliability	3
	Engineering Science Elective	4
	ISE Elective	4

<u>Spring</u>		
ISE 436	Project Management	3
Eng 3XXJ	Junior English	4
	ISE Elective	4
	Engineering Science Elective	4

Sophomore Year (49 credits)		
<u>Fall</u>		
Phys 251	Physics I	5
ISE 306	Engineering Statistics	4
ISE 330	Engineering Economy	3
	Tier II Elective – Fine Arts	3

<u>Winter</u>		
Math 211	Elementary Linear Algebra	4
Phys 252	Physics II	5
IT 303	Appl. of Obj-Oriented Prog.	4
	Business Elective	4

<u>Spring</u>		
Phys 253	Physics III	5
ISE 334	Work Design	3
Psy 101	General Psychology	5
ISE 316	Engineering Probability	4

Senior Year (49 credits)		
<u>Fall</u>		
	ISE Elective	3
	Engineering Science Elective	3
	Math/Science Elective	4
	Prof Concentration Elective	3
	Business Elective	4

<u>Winter</u>		
ISE 445A	Systems Design I	3
ISE 455	Info Systems Engineering	4
	Prof Concentration Elective	3
	Prof Concentration Elective	3
	Tier II Elective – Cross-Cult.	3

<u>Spring</u>		
ISE 445B	Systems Design II	3
	Prof Concentration Elective	4
	Prof Concentration Elective	4
	Free Elective	5

<b>ELECTIVES</b>	<ul style="list-style-type: none"> <li>• <b>Math/Science:</b> 12 credits <i>see back of page</i></li> <li>• <b>Business:</b> 8 credits <i>see back of page</i></li> <li>• <b>ISE Electives:</b> 11 credits <i>any non-required ISE</i></li> <li>• <b>Eng. Science:</b> 11 credits <i>ChE, CE, EE, ME 200 or higher</i></li> <li>• <b>Prof. Concentration:</b> 17 credits <i>see back of page</i></li> <li>• <b>Free Electives:</b> 5 credits <i>any classes at OU</i></li> </ul>
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<b>PROFESSIONAL CONCENTRATION AREA OPTIONS</b>	<ul style="list-style-type: none"> <li>• General IE</li> <li>• Manufacturing</li> <li>• Supply Chain Management</li> <li>• Information Systems</li> <li>• Health Care</li> <li>• Human Factors</li> <li>• Facility Planning and Development</li> </ul>
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## Professional Concentration Area (minimum 17 credits)

Suggested course groupings are shown below. Additional areas are possible and can be designed by the student in consultation with his/her advisor. To qualify, a professional concentration area must contain a minimum of 6 credits of engineering courses.

<p><u>Industrial Engineering</u> (18)</p> <p>ISE 407 Intro to Designed Experiments (3)            ISE 440 Facility Design and Planning (4)            ISE 442 Inventory &amp; Mfg. Control II (3)            ISE 448A Human Factors Engineering (4)            IT 110 Intro to Mfg. Processes (4)            or IT 117 Basic Metal Machining (4)</p>	<p><u>Manufacturing</u> (19)</p> <p>ISE 402 Manufacturing Systems (4)            ISE 440 Facility Design and Planning (4)            ISE 442 Inventory &amp; Mfg. Control II (3)            ISE 460 Computer Integrated Manuf. (4)            IT 110 Intro to Mfg. Processes (4)            or IT 117 Basic Metal Machining (4)</p>
<p><u>Supply Chain Management</u> (18)</p> <p>ISE 403 Materials Handling Systems (4)            ISE 407 Intro to Designed Experiments (3)            ISE 440 Facility Design and Planning (4)            ISE 442 Inventory &amp; Mfg. Control II (3)            MKT 404 Logistics &amp; Supp. Chain Mgmt (4)            or MKT 425 Bus-to-Bus Mktg (4)</p>	<p><u>Information Systems</u> (20-22)</p> <p>ET 181 Computer Methods I (4)            or CS 210 Programming in C (5)            ISE 456 Database Information Systems (4)            ISE 490 System Development Project (4)            IT 354 Automatic Identification (4)            IT 337 Mfg. Networks/Data Comm. (4)            or CS 444 Data Communications (5)</p>
<p><u>Health Care</u> (18)</p> <p>IH 200 Intro to Industrial Hygiene (4)            or EH 260 Intro to Environ. Health (4)            HLTH 335 Admin. of Acute Care Facilities (4)            or HLTH 340 Contemporary Problems                              in Health Care Org. (4)            HLTH 230 Medical Terminology (2)            ISE 403 Materials Handling Systems (4)            ISE 440 Facility Design and Planning (4)</p>	<p><u>Human Factors</u> (20)</p> <p>BIOS 203 Human Biology II (4)            BIOS 204 Human Biology II Lab (1)            EH 260 Intro to Environ. Health (4)            EH 457 Occ. Safety and Health Admin. (4)            ISE 407 Intro to Designed Experiments (3)            ISE 448A Human Factors Engineering (4)</p>
<p><u>Facility Planning and Development</u> (18)</p> <p>CE 316 Construction Engr. and Mgmt. (3)            CE 330 Structural Theory I (5)            CE 416 Construction Estimating (3)            CE 418 Construction Administration (3)            ISE 440 Facility Planning and Design (4)</p>	

## Math/Science Electives (12 credits = 3 classes)

<p>BioS 103 Human Biology Basic Princ. (5)            Chem 122 Principles of Chemistry II (4)            Chem 152 Fundamentals of Chemistry II (5)            Chem 123 Principles of Chemistry III (4)            Chem 153 Fundamentals of Chem. III (5)</p>	<p>Math 263D Calculus IV (4)            Math 308 Discrete Mathematics (4)            Math 340 Differential Equations (4)            Math 410 Matrix Theory (4)            Math 411 Linear Algebra (4)            Math 443 Math Modeling &amp; Optimization (4)</p>
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## Business Electives (8 credits = 2 classes)

<p>Econ 104 Macroeconomics (4)            Acct 101 Financial Accounting (4)            Acct 102 Managerial Accounting (4)</p>	<p>BusL 255 Law and Society (4)            Mgt 202 Management (4)            Mkt 202 Marketing Principles (4)</p>
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