

# Ohio University

# Degree Requirements (Fall 2007 and earlier)

## Bachelor of Science in Industrial & Systems Engineering

192 Credits Total

Freshman Year (48 credits)		
<u>Fall</u>		
Math 263A	Calculus I	4
	Chemistry 121/150/151	4/5
Eng 151	Freshman Composition	5
Econ 103	Microeconomics	4

<u>Winter</u>		
Math 263B	Calculus II	4
	Math/Science Elective	4
ISE 200	Intro to Computers & IE	4
Phil 130	Introduction to Ethics	4

<u>Spring</u>		
Math 263C	Calculus III	4
IT 101	Engineering Drawing	3
ISE 201	Data Mgmt. and Display	4
COMS 103 or ThAr 113	Public Speaking Acting Fundamentals	4

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
ISE 455	Info Systems Engineering	4
	ISE Elective	4

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

Sophomore Year (50 credits)		
<u>Fall</u>		
Phys 251	Physics I	5
ISE 306	Engineering Statistics	4
ISE 330	Engineering Economy	3
	Business Elective	4

<u>Winter</u>		
Math 211	Elementary Linear Algebra	4
Phys 252	Physics II	5
ISE 316	Engineering Probability	4
IT 303	Appl. of Obj-Oriented Prog.	4

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

Senior Year (48 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
	Engineering Science Elective	4
	Prof Concentration Elective	3
	Prof Concentration Elective	3
	Free Elective	3

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

<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> 12 credits <i>see back of page</i></li> <li>• <b>ISE:</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> 7 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.

<u>Industrial Engineering</u> (18) ISE 407 Intro to Designed Experiments (3) ISE 440 Facility Design and Planning (4) ISE 442 Inventory & Mfg. Control II (3) ISE 448A Human Factors Engineering (4) IT 110 Intro to Mfg. Processes (4) or IT 117 Basic Metal Machining (4)	<u>Manufacturing</u> (19) ISE 402 Manufacturing Systems (4) ISE 440 Facility Design and Planning (4) ISE 442 Inventory & Mfg. Control II (3) ISE 460 Computer Integrated Manuf. (4) IT 110 Intro to Mfg. Processes (4) or IT 117 Basic Metal Machining (4)
<u>Supply Chain Management</u> (19) ISE 403 Materials Handling Systems (4) ISE 407 Intro to Designed Experiments (3) ISE 440 Facility Design and Planning (4) ISE 442 Inventory & Mfg. Control II (3) MKT 404 Logistics & Supp. Chain Mgmt (4)	<u>Information Systems</u> (20-22) ET 181 Computer Methods I (4) or CS 230 Computer Programming I (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)
<u>Health Care</u> (18) 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)	<u>Human Factors</u> (20) 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)
<u>Facility Planning and Development</u> (18) 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)	

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

BioS 103 Human Biology Basic Princ. (5)	Math 263D Calculus IV (4)
Chem 122 Principles of Chemistry II (4)	Math 308 Discrete Mathematics
Chem 152 Fundamentals of Chemistry II (5)	Math 340 Differential Equations (4)
Chem 123 Principles of Chemistry III (4)	Math 410 Matrix Theory (4)
Chem 153 Fundamentals of Chem. III (5)	Math 411 Linear Algebra (4)
	Math 443 Math Modeling & Optimization

## Business Electives (12 credits = 3 classes)

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