

INDUSTRIAL AND SYSTEMS ENGINEERING - BS/MS 4+1 program

Total Credits = **120 BS** + **30 MS**

Freshman Year *Fall* Semester

Course Code	Description	Cr	
CHM 101	General Chemistry Lec I (A1)	3	
CHM 102	General Chemistry I Lab	1	
EGR 105	Foundations of Engineering I (A4)	1	
MTH 141 +	Calculus I (A1, B3)	4	
	General Education Outcome(s)*	6	
		15	

Freshman Year *Spring* Semester

Course Code	Description	Cr	
EGR 106	Foundations of Engineering II (A4)	2	
MTH 142 +	Calculus II (B3)	4	
PHY 203	Elementary Physics I (A1)	3	
PHY 273	Elementary Physics Lab I (A1)	1	
	General Education Outcome(s)*	6	
		16	

Sophomore Year *Fall* Semester

Course Code	Description	Cr	
ISE 240 and 241 <i>or</i> MCE 201	Mfg Processes & Systems (3), Mfg Processes & Systems Lab (1) ----- Engineering Graphics (3)	3-4	
ISE/SUS 261G	Sustainable Lean Production (A1,B4,G)	3	
MCE 262	Statics	3	
MTH 362	Advanced Engineering Mathematics	3	
PHY 274	Elementary Physics II (A1)	3	
PHY 274	Elementary Physics II Lab (A1)	1	
		16-17	

Sophomore Year *Spring* Semester

Course Code	Description	Cr	
EGR 316G	Engineering Ethics (A3, C1, G)	3	
ISE 240 and 241 <i>or</i> MCE 201	Mfg Processes & Systems (3), Mfg Processes & Systems Lab (1) ----- Engineering Graphics (3)	3-4	
MTH 243 +	Calculus for Functions of Several Vars (A1, B3)	3	
	Science Elective**	3	
	Technical Elective***	3	
		15-16	

Junior Year *Fall* Semester

Course Code	Description	Cr	
ACC (BUS) 201	Financial Accounting	3	
CHE 333	Engineering Materials	3	
ISE 311	Probability & Statistics for Engineers	3	
ISE 325	Computer Tools for Engineers	3	
ISE 332	Deterministic Systems	3	
		15	

Junior Year *Spring* Semester

Course Code	Description	Cr	
ISE 304	Engineering Econ and Proj Planning	3	
ISE 312	Statistical Methods & Quality Systems	3	
ISE 333	Stochastic Systems	3	
ISE 334	Simulation Modeling and Analysis	3	
	Professional Elective****	3	
		15	

Senior Year *Fall* Semester

Course Code	Description	Cr	
ISE 401	ISE Capstone Design I	3	
ISE 420	Intro To Human Factors & Ergonomics	3	
ISE 451	Production System Design	3	
	Professional Elective****	3	
	Graduate Course	3	
		15	

Senior Year *Spring* Semester

Course Code	Description	Cr	
ISE 402	ISE Capstone Design II (D1)	3	
	Professional Elective****	3	
	Professional Elective****	3	
	Technical Elective***	3	
ISE 4xx/5xx	Graduate Course	3	
		15	

Summer

Course Code	Description	Cr	
	General Education Outcome(s)*	3	
ISE 599	Thesis	3	
		6	

Note: See undergraduate curriculum sheet for more information on undergraduate requirements.

Fifth Year *Fall*

Course Code	Description	Cr	
ISE 555	Deterministic Systems Optimization	3	
ISE 5xx	Graduate Course	3	
	Graduate Course	3	
ISE 599	Thesis Research	3	
		12	

Fifth Year *Spring*

Course Code	Description	Cr	
ISE 533	Adv. Statistical Methods for Research & Ind.	3	
ISE 4xx/5xx	Graduate Course	3	
ISE 599	Thesis Research	3	
		9	