

Industrial and Systems Engineering (INSY)

Freshman

Fall	Hours	Spring	Hours
ENGL 1100 English Composition I		3 ENGL 1120 English Composition II	3
Core Fine Arts		3 Core History ¹	3
MATH 1610 Calculus I		4 MATH 1620 Calculus II	4
CHEM 1030 Fundamentals Chemistry I		3 PHYS 1600 Engineering Physics I	4
CHEM 1031 Fundamental Chemistry I Laboratory		1 COMP 1220 Introduction to Computing with Python	2
ENGR 1100 Engineering Orientation	0		
ENGR 1110 Introduction to Engineering	2		
	16		16

Sophomore

Fall	Hours	Spring	Hours
PHYS 1610 Engineering Physics II		4 MATH 2660 Topics in Linear Algebra	3
MATH 2630 Calculus III		4 ENGR Elective ^{2, 4}	3
MATH 2650 Linear Differential Equations		3 INSY 3020 Occupational Safety Ergonomics	3
STAT 3600 Probability and Statistics I⁶		3 INSY 3021 Methods Engineering and Work Measurement	3
		STAT 3610 Probability and Statistics II	3
		STAT 3611 Probability and Statistics II Laboratory	1
	14		16

Junior

Fall	Hours	Spring	Hours
Core Social Science ¹		3 Core Literature	3
INSY 3010 Programming and Database Applications for ISE		3 TECH Elective ^{3, 4}	3
INSY 3400 Stochastic Operations Research⁶		3 INSY 3420 Simulation	3
INSY 3410 Deterministic Operations Research⁶		3 INSY 3700 Operations Planning and Control	3
INSY 3600 Engineering Economy		3 INSY 3800 Manufacturing Systems I	3
	15		15

Senior

Fall	Hours	Spring	Hours
Select one of the following:		3 Core Social Science ¹	3
PHIL 1020 Introduction to Ethics (Core Humanities)		INSY 4800 Senior Design	3
PHIL 1030 Ethics and the Health Sciences (Core Humanities)		INSY Elective	3
PHIL 1040 Business Ethics (Core Humanities)		Technical Elective ^{3, 4}	3
ELEC 3810 Fundamentals of Electrical Engineering		3 UNIV 4AA0 Achieve the Creed	0
INSY 4330 Statistical Quality Design and Control	3		

INSY 4500 Professional Practice	1	
INSY 4700 Manufacturing Systems II	3	
INSY Elective	3	
	16	12

Total Hours: 120

- 1 The AU Bulletin lists the University Core Curriculum requirements for students in the College of Engineering. Students must complete a sequence in either Literature or History. Because of the discipline specific requirements for the Humanities courses, it is recommended that a History sequence be completed in the Social Sciences courses.
- 2 ENGR 2050, ENGR 2200, ENGR 2100, MECH 2130, MATL 2100
- 3 Any 3-hour ISE course not required for major or COMP 5000, ELEC 5150, MATL 3100, MECH 2220, MECH 5510, STAT 4610, STAT 4620, STAT 4630, STAT 5630, STAT 5670, STAT 5690, or a course with ISE department approval.
- 4 Six hours of ROTC required courses can be substituted for the ENGR and one TECH Elective. Three hours of minor or major required courses in BET, Nuclear, Supply Chain, Computer Science, or Information Systems Management count as one TECH elective.
- 5 General Note: Bold classes represent major classes. Total Hours for degree = 120, (P) Denotes courses required to complete pre-engineering.
- 6 Grade of C or better is required in these courses.