

Wheaton College - Northern Illinois University (NIU) Program Plan

THIS PROGRAM PLAN IS FOR GUIDANCE ONLY. GRADUATION REQUIREMENTS ARE FOUND IN CATALOGS.

Engineering Major
General Education

Industrial & Systems Engineering

		Fall Semester		
Sem	Code	Name	Hrs.	
1	MATH 235	Calculus I	4	
	PHYS 231	Introductory Physics I	4	
	ENGR 101	Introduction to Engineering	1	
	CORE 101	First Year Seminar	4	
	CORE 131	Holistic Human Flourishing	1	
	LANG	World Languages	4	
<i>Total</i>			18	
3	MATH 237	Calculus III	4	
	ENGR 334	Computer Modeling of Physical Systems	2	
	ENGR 351	Analog Electronics (w/lab)	2	
	LANG	World Languages	4	
	SELECT	Thematic Core (1 of 3)	4	
	<i>Total</i>			16
5	CHEM 231	General Chemistry I	4	
	PSYC 101	Introduction to Psychology	4	
	SELECT	Visual & Performing Arts (1 of 2)	2	
	SELECT	Thematic Core (3 of 3)	4	
<i>Total</i>			14	

years 1 - 3 credit hours = 96

		Spring Semester		
Sem	Code	Name	Hrs.	
2	MATH 236	Calculus II	4	
	PHYS 232	Introductory Physics II	4	
	ENGR 132	Engineering Graphics and CAD	3	
	COMM	Oral Communication (0-2)	2	
	BITH	Old Testament Literature	4	
<i>Total</i>			17	
4	MATH 333	Differential Equations	4	
	ENGR 214	Innovative Design in Engineering (NIU Tech. Elective 1)	3	
	SELECT	Thematic Core (2 of 3)	4	
	BITH	New Testament Literature	4	
	<i>Total</i>			15
6	ECON 211	Principals of Microeconomics	4	
	ENGR 494	Engineering Ethics Capstone	2	
	BITH	Christian Thought	4	
	CORE 3xx	Advanced Seminar (with 1 Thematic Core tag)	4	
	SELECT	Visual & Performing Arts (2 of 2)	2	
<i>Total</i>			16	

All courses below this line are based on completion at NIU

7	ISYE 250	Intro. To lean systems engineering	2	
	ISYE 335	Prob & Stats for Engineers	3	
	ISYE 350	Principals of manufacturing processes	3	
	ISYE 370	Operations research: deterministic models	3	
	MEE 209	Engineering Mechanics - Statics and Dynamics	3	
	TE	Technical elective 2	3	
<i>Total</i>			17	
9	ISYE 410	Human factors engineering	3	
	ISYE 440	Production planning and control	3	
	ISYE 460	Facilities planning and design	3	
	ISYE 480	Simulation modeling and analysis	3	
	ISYE 492	Industrial and systems engineering senior design project	1	
	TE	Technical elective 3	3	
<i>Total</i>			16	

years 4 - 5 credit hours = 60

TOTAL credit hours = 156

8	ISYE 220	Engineering economy	3	
	ISYE 310	Work measurement and work design	3	
	ISYE 371	Operations research: Probabilistic models	3	
	ISYE 430	Quality control	3	
	ISYE 435	Experimental design for engineers	3	
<i>Total</i>			15	
10	ISYE 450	Lean manufacturing systems	3	
	ISYE 495	Senior design project	3	
	TE	Technical Elective 4	3	
	TE	Technical Elective 5	3	
	EXAM	Fundamentals of Engineering (Passing is not required)	3	
<i>Total</i>			12	

last updated 8/7/2024

Technical elective courses are ISYE 300 or 400 level.

Technical electives may come from outside of the ISYE list (see NIU catalog) - this includes Wheaton's ENGR 204

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Updated August 2024

All courses after Semester 6 are taken at NIU.

