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

Mechanical 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
		Total	18
3	MATH 237	Calculus III	4
	ENGR 211	Engineering Mechanics I - Statics	3
	ENGR 334	Computer Modeling of Physical Systems	2
	LANG	World Languages	4
	SELECT	Thematic Core (1 of 3)	4
		Total	17
5	ENGR 313	Mechanics of Materials	3
	CHEM 231	General Chemistry I	4
	CORE 3xx	Advanced Seminar (with 1 Thematic Core tag)	4
	SELECT	Thematic Core (2 of 3)	4
		Total	15
		years 1 - 3 credit hours =	*98*

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
		Total	17
4	MATH 333	Differential Equations	4
	ENGR 212	Engineering Mechanics II - Dynamics	3
	ENGR 214	Innovative Design in Engineering (NIU Tech. Elective 1)	3
	BITH	New Testament Literature	4
	SELECT	Visual & Performing Arts (1 of 2)	2
		Total	16
6	ENGR 235	Materials Science for Engineering	3
	ENGR 494	Engineering Ethics Capstone	2
	BITH	Christian Thought	4
	SELECT	Thematic Core (3 of 3)	4
	SELECT	Visual & Performing Arts (2 of 2)	2
		Total	15

All courses below this line are based on completion at NIU

7	MEE 320	Mechanism design and analysis	3
	MEE 321	Mechanical vibrations I	3
	MEE 340	Fluid Mechanics	3
	ELE 210 & 210U	Engineering Circuit Analysis	4
	ISYE 220	Engineering Economy	3
		Total	16
9	MEE 352	Heat transfer	3
	MEE 380	Computational methods in engineering design	3
	MEE 390	Experimental Methods in mechanical engineering I	3
	MEE 430	Computer aided design and manufacturing	3
	MEE 485	Senior Mechanical Engineering Design I	1
	TE	Technical Elective 2	3
		Total	16
		years 4 - 5 credit hours =	57
		TOTAL credit hours =	155

8	MEE 322	Dynamic systems and control I	3
	MEE 331	Manufacturing processes	3
	MEE 350	Engineering Thermodynamics	3
	MEE 383	Engineering Analysis	3
	MEE 470	Design of machine elements	3
		Total	15
10	MEE 452	Design of thermal systems	3
	MEE 486	Senior Mechanical Engineering Design II	3
	MEE 494	Mechanical engineering competency	1
	TE	Technical Elective 3	3
	Exam	Fundamentals of Engineering (Passing is not required)	
		Total	10

last updated 8/7/2024

Wheaton College - NIU
Mechanical Engineering

Updated August 2024

All courses after Semester 6 are taken at NIU.

Prerequisite →

Co-requisite ⇢

Credit Hours (xx)

Core Curriculum:

- 1st yr. seminar (4)
- Holistic Human Flourishing (1)
- Writing (4)
- Oral Comm. (2)
- Old Test. Lit. (4)
- Thematic Core 1 (4)
- World Languages (4)
- New Test. Lit. (4)
- V & P Arts 1 (2)
- CORE 3xx Ad Sem (4)
- Thematic Core 2 (4)
- Christian Thought (4)
- Thematic Core 3 (4)
- ENGR 394 Eth CS (2)
- V & P Arts 2 (2)

Entry

Precalculus

Sem. 1 (18)

- MATH 235 (4) Calculus I
- PHYS 231 (4) Intro. to Physics I
- ENGR 101 (1) Intro. to Engr.

Sem. 2 (17)

- MATH 236 (4) Calculus II
- PHYS 232 (4) Intro. to Physics II
- ENGR 132 (3) Engr. Graphics & CAD

Sem. 3 (17)

- MATH 237 (4) Calculus III
- ENGR 334 (2) Comp. Modeling of Physical Systems
- ENGR 211 (3) Engr. Mech. I - Statics

Sem. 4 (16)

- MATH 333 (4) Differential Equations
- ENGR 212 (3) Engr. Mech. II - Dynamics
- ENGR 214 (3) Innovative Design in Engineering (NIU TE 1)

Sem. 5 (15)

- CHEM 231 (4) Gen. Chemistry I
- ENGR 313 (3) Mechanics of Materials

Sem. 6 (15)

- ENGR 223 (3) Materials Science for Engineering

Sem. 7 (16)

- MEE 320 (3) Mechanism Design and Analysis
- MEE 321 (3) Mechanical Vibration I
- MEE 340 (3) Fluid Mechanics
- ELE 210 & U (4) Engineering Circuit Analysis
- ISYE 220 (3) Engineering Economy

Sem. 8 (15)

- MEE 322 (3) Dynamic systems and control I
- MEE 331 (3) Manufacturing processes
- MEE 350 (3) Engineering Thermodynamics
- MEE 383 (3) Engineering Analysis
- MEE 470 (3) Design of Machine Elements

Sem. 9 (16)

- MEE 352 (3) Heat Transfer
- MEE 380 (3) Comp. Methods in Engr. Design
- MEE 390 (3) Expr. Methods in ME I
- MEE 430 (3) CAD and Manufacturing
- MEE 485 (3) Senior ME Design I
- Tech Elective 2 (3)

Sem. 10 (10)

- MEE 452 (3) Design of Thermal Systems
- MEE 486 (3) Senior ME Design II
- MEE 494 (1) ME Competency
- Tech Elective 3 (3)