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

Electrical Engineering

Fall Semester

Sem	Code	Name	Hrs.
1	MATH 231	Calculus I	4
	PHYS 231	Introductory Physics I	4
	ENGR 101	Introduction to Engineering	1
	CORE 101	First Year Seminar	4
	LANG.	Foreign Language	4
		Total	17

Sem	Code	Name	Hrs.
3	MATH 333	Differential Equations	4
	PHYS 334	Computer Modeling of Physical Systems	2
	ENGR 201	Engineering Mechanics I - Statics	4
	SELECT	Thematic Core (1 of 3)	4
	AHS 101	Wellness (0-2)	2
		Total	16

Sem	Code	Name	Hrs.
5	PHYS 351	Analog Electronics (w/lab)	2
	ENGR 204	Innovative Design in Engineering (NIU Tech. Elective 1)	4
	CHEM 231	General Chemistry I	4
	SELECT	Thematic Core (3 of 3)	4
	SELECT	Visual & Performing Arts (1 of 2)	2
		Total	16

years 1 - 3 credit hours = 97

Spring Semester

Sem	Code	Name	Hrs.
2	MATH 232	Calculus II	4
	PHYS 232	Introductory Physics II	4
	ENGR 130	Engineering Graphics and CAD (4-optional)	
	ENGW	Writing (0-4)	4
	BITH	Old Testament Literature	4
		Total	16

Sem	Code	Name	Hrs.
4	MATH 331	Vector Calculus	2
	PHYS 331	Spacetime and Quanta	4
	SELECT	Thematic Core (2 of 3)	4
	BITH	New Testament Literature	4
	COMM	Oral Communication (0-2)	2
		Total	16

Sem	Code	Name	Hrs.
6	ENGR 202	Engineering Mechanics II - Dynamics	4
	ENGR 394	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
		Total	16

All courses below this line are based on completion at NIU

Sem	Code	Name	Hrs.
7	ELE 250	Computer Engineering I	4
	ELE 315	Signals and Systems	3
	ELE 330	Electronic Circuits	4
	ELE 340	Electrical Power Systems	4
	ISYE 335	Prob & Stats for Engineers	3
		Total	18

Sem	Code	Name	Hrs.
9	ELE 335	Theory of Semiconductor Devices I	3
	TECH	Technical Elective 2	3
	TECH	Technical Elective 3	3
	ISYE 220	Eng. Economy	3
	ELE 495	Senior Electrical Engineering Design I	3
		Total	15

years 4 - 5 credit hours = 61
TOTAL credit hours = 158

Electives: any ELE at 400+ (see NIU catalog)

Sem	Code	Name	Hrs.
8	ELE 356	Computer Engineering II	4
	ELE 360	Communications Systems	4
	ELE 370	Engineering Electromagnetics	3
	ELE 380	Control Systems I	4
	ELE 395	Junior Electrical Engineering Design	1
		Total	16

Sem	Code	Name	Hrs.
10	TECH	Technical Elective 4	3
	TECH	Technical Elective 5	3
	TECH	Technical Elective 6	3
	ELE 496	Senior Electrical Engineering Design II	3
	EXAM	Fundamentals of Engineering (Passing is not required)	
		Total	12

last updated 5/2/2022

Wheaton College - NIU
Electrical Engineering
Updated May 2022

All courses after Semester 6 are taken at NIU.

Prerequisite →
Co-requisite ⇢
Credit Hours (xx)

Core Curriculum:

Entry

MATH 131 or Precalculus

Sem. 1 (17)

MATH 231 (4) or 233 (2) → PHYS 231 (4) → ENGR 101 (1)

- 1st yr. seminar (4)
- Foreign Lang. (4)

Sem. 2 (16)

MATH 232 (4) or 234 (2) → PHYS 232 (4) → ENGR 130 (4) (optional)

- Writing (4)
- Old Test. Lit. (4)

Sem. 3 (16)

MATH 333 (4) → PHYS 334 (2) → ENGR 201 (4)

- Thematic Core 1 (4)
- Wellness (2)

Sem. 4 (16)

MATH 331 (2) → PHYS 331 (4)

- Thematic Core 2 (4)
- New Test. Lit. (4)
- Oral Comm (2)

Sem. 5 (16)

PHYS 351 (2) → ENGR 204 (4) (NIU TE 1) → CHEM 231 (4)

- V & P Arts 1 (2)
- Thematic Core 3 (4)

Sem. 6 (16)

ENGR 202 (4)

- Christian Thought (4)
- ENGR 394 Eth CS (2)
- Core 3xx Ad Sem (4)
- V & P Arts 2 (2)

Sem. 7 (15)

ISYE 335 (3) → ELE 250 (4) → ELE 315 (3) → ELE 330 (4) → ELE 340 (4)

Sem. 8 (16)

ELE 356 (4) → ELE 360 (4) → ELE 370 (3) → ELE 380 (4) → ELE 395 (1)

Sem. 9 (15)

ISYE 220 (3) → Tech Elective 2 (3) → Tech Elective 3 (3) → ELE 335 (3) → ELE 495 (3)

Sem. 10 (12)

Tech Elective 4 (3) → Tech Elective 5 (3) → Tech Elective 6 (3) → ELE 496 (3)