Total Major hours at Wheaton: 48
Suggested hours per semester: 16-18

# Electrical Engineering with Northern Illinois University

**Major Academic Plan (MAP) for Catalog Year 2025-2026**
**Major hours at Wheaton = 48**

The catalog is the final authority on CATC and major requirements; this is intended as a tool for planning purposes. Student course sequencing may vary depending on course offerings and other variables.

| **Fall Semester 1** | **Spring Semester 1[2]** | **Summer 1** |
|---|---|---|
| MATH 235: Calculus I[1]*<br>PHYS 231: Introductory Physics I[F, 1]*<br>ENGR 101: Intro. to Engineering (1)[F]<br><br>*CORE 101: First Year Seminar*<br>*CORE 131: Holistic Human Flourishing (1)*<br>*ENGW 103: Writing* | MATH 236: Calculus II*<br>PHYS 232: Introductory Physics II[S]*<br><br>*Language Core Competency*<br>*BITH or ARCH 211: Old Testament* | *Consider study, internship or research options –Wheaton In summer program, WIN (HoneyRock), Wheaton in the Black Hills, non-major internship, summer research or other options that provide work experience, build your resume, or grow you personally.* |
| **Fall Semester 2** | **Spring Semester 2** | **Summer 2** |
| MATH 237: Calculus III*<br>ENGR 334: Computer Modeling of Physical Systems (2)[F]*<br>ENGR 211: Statics[F]* (3)<br>ENGR 351: Analog Electronics w/lab (2)*<br><br>*Thematic Core Courses (4)[3]*<br>*COMM 101: Oral Communication (2)* | MATH 333: Differential Equations*<br>ENGR 212: Dynamics* (3)<br>ENGR 214: Innovative Design in Engr.[F]*(3)<br><br>*Visual & Performing Arts (2)[3]*<br>*BITH or ARCH 213: New Testament* | *Consider study, internship or research options* |
| **Fall Semester 3[4]** | **Spring Semester 3** | **Summer 3** |
| CHEM 231: General Chemistry I[F]<br><br>*Thematic Core Course[3]*<br>*Visual & Performing Arts (2)[5]* | ENGR 394: Ethics Capstone (2)*<br>PHYS 331: Spacetime and Quanta*<br><br>*Thematic Core Course[3]*<br>*BITH 315: Christian Thought**<br>*Advanced Integrative Seminar[5]** | *Consider study, internship or research options* |

All courses below this line are based on completion at NIU

| **Fall Semester 4** | **Spring Semester 4** | **Summer 4** |
|---|---|---|
| ELE 315: Signals and Systems (3)<br>ELE 330: Electronic Circuits<br>ELE 250: Computer Engineering I<br>ELE 340: Electrical Power Systems<br>ISYE335: Prob & Stats for Engr (3) | ELE 356: Computer Engineering II<br>ELE 360: Communications Systems<br>ELE 370: Engr. Electromagnetics (3)<br>ELE 380: Control Systems I<br>ELE 395: Junior Electrical Engineering Design (1) | Consider study, internship or research options. |



Last updated: 3/18/2025

| Fall Semester 5 | Spring Semester 5 | Summer 5 |
|---|---|---|
| ELE 335: Theory of Semiconductor Devices I (3)<br>Technical Elective 2 (3)<br>Technical Elective 3 (3)<br>ISYE 220: Engineering Economy (3)<br>ELE 495: Senior Electrical Engineering Design I (3) | Technical Elective 4 (3)<br>Technical Elective 5 (3)<br>Technical Elective 6 (3)<br>ELE 496: Senior Electrical Engineering Design II (3)<br>Fundamentals of Engineering Exam (0) | |

**Notes or Special Guidance for Majors**:

*Course has prerequisite
[F] Fall only course
[S] Spring only course
[#] Offered every other year

[1] Classes that meet CATC Thematic Core tags: MATH 231 (AAQR), PHYS 231 (SP). Engineering majors should use the Engineering checklist for CATC.

[2] ENGR 132: Engineering Graphics and CAD (3), is strongly recommended in this semester.

[3] Engineering majors should carefully select CATC Thematic Core courses. In addition to the Themes already covered with required courses (AAQR and SP, see footnote 1), Social Inquiry (SI) and the Visual and Performing Arts (VPA or 2 of VPAV/VPAM/VPAT) must be taken. 4 of the 5 remaining themes must also be taken by Engineering majors. See the Engineering checklist for the full CATC requirements. Double tagged courses are strongly encouraged.

[4] These courses are taken in partnership with Illinois Tech while finishing Wheaton requirements.

-All Engineering MAPs are also located on the Engineering Department webpage. Please contact the Engineering Program Director, Jeff Yoder with questions. He can be reached at jeff.yoder@wheaton.edu.