# Computer Engineering with Illinois Tech

| Total Major hours at Wheaton:45 |
|---|
| Suggested hours per semester: 16-18 |

**Major Academic Plan (MAP) for Catalog Year 2023-2024**
**Major hours at Wheaton = 45**

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> *Language Core Competency* | MATH 236: Calculus II* <br> PHYS 232: Introductory Physics II[S]* <br><br> *ENGW 103: Writing* <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 333: Differential Equations* <br> PHYS 334: Computer Modeling of Physical Systems (2)[F]* <br> ENGR 201: Statics[F]* <br><br> *Thematic Core Courses (8)[3]* | MATH 237: Calculus III* <br> PHYS 331: Spacetime and Quanta* <br><br> *BITH or ARCH 213: New Testament* <br> *Visual & Performing Arts (2)[3]* <br> COMM 101: Oral Communication (2) | *Consider study, internship or research options.* |
| **Fall Semester 3** | **Spring Semester 3** | **Summer 3** |
| ENGR 204: Innovative Design in Engr.[F]* <br> CHEM 231: General Chemistry I[F] <br> IIT CS 115: Object-Oriented Programming I (2)[4] <br><br><br> *Advanced Integrative Seminar[3]** <br> *Thematic Core Course[3]* | ENGR 394: Ethics Capstone (2)* <br> IIT CS 116: Object-Oriented Prog. II (2)[4] <br> IIT ECE 211: Circuit Analysis I (3)[4] <br> IIT ECE 218: Digital Systems[4] <br><br> *BITH 315: Christian Thought** <br> *Visual & Performing Arts (2)[3]* | *Consider study, internship or research options.* |

| Fall Semester 4 | Spring Semester 4 | Summer 4 |
|---|---|---|
| CS 330: Discrete Structures (3) <br> CS 331: Data Structures & Algorithms (3) <br> ECE 213: Circuit Analysis 2 <br> MATH 374: Probability & Statistics for Electrical & Computer Engineers (3) <br><br> SELECT Science Elective (3) choose from: <br> BIOL 105, BIOL 114, CHEM 126 or MS 201 | ECE 242: Digital Computers & Computing (3) <br> ECE 307 Electrodynamics or ECE 308 Signals and Systems (3) or ECE 319 Fundamentals of Power Engr. <br> ECE 311: Engineering Electronics <br> MATH 333 Matrix Algebra/Complex Variables or MATH 350 Intro Computational Mathematics <br> IPRO: IPRO Elective 1 (3) | *Consider study, internship or research options.* |

Last updated: 6/7/2023

| Fall Semester 5 | Spring Semester 5 | Summer 5 |
|---|---|---|
| CS 351: Systems Programming (3) <br> ECE 441: Microcomputers <br> ECE 485: Engineering Electronics (3) <br> SELECT: Computer Sys/Software Elective (3 or 4) <br> ECE 400+:Professional ECE elective 1 (3 or 4) | CS 450 Operating Systems (3) <br> ECE 429 Introduction to VLSI Design or ECE 446 Advanced Logic Design (3 or 4) <br> ECE 400+: Professional ECE elective 2 (3 or 4) <br> IPRO: IPRO Elective 2 <br> Exam: Fundamentals of Engineering (Passing is not required) | |

**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 130: Engineering Graphics and CAD, 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 Coordinator, Jeff Yoder with questions. He can be reached at jeff.yoder@wheaton.edu.