

## Civil Engineering with Illinois Tech

Total Major hours at Wheaton: 53  
Suggested hours per semester: 16-18

### Major Academic Plan (MAP) for Catalog Year 2023-2024

Major hours at Wheaton = 53

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.

<b>Fall Semester 1</b>  MATH 235: Calculus I <sup>1*</sup> PHYS 231: Introductory Physics I <sup>F, 1*</sup> ENGR 101: Intro. to Engineering (1) <sup>F</sup>  <i>CORE 101: First Year Seminar</i> <i>Language Core Competency</i>	<b>Spring Semester 1</b>  MATH 236: Calculus II <sup>*</sup> PHYS 232: Introductory Physics II <sup>S*</sup> ENGR 130: Engineering Graphics and CAD  <i>ENGW 103: Writing</i>	<b>Summer 1</b>  <i>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.</i>
<b>Fall Semester 2</b>  MATH 333: Differential Equations* PHYS 334: Computer Modeling of Physical Systems (2) <sup>F*</sup> ENGR 201: Statics <sup>F*</sup>  <i>BITH or ARCH 211: Old Testament Visual &amp; Performing Arts (2)<sup>2</sup></i>	<b>Spring Semester 2</b>  MATH 237: Calculus III* ENGR 202: Dynamics <sup>S*</sup>  <i>Thematic Core Course<sup>2</sup></i> <i>BITH or ARCH 213: New Testament</i> <i>COMM 101: Oral Communication (2)</i>	<b>Summer 2</b>  <i>Consider study, internship or research options.</i>
<b>Fall Semester 3</b>  ENGR 204: Innovative Design in Engr. <sup>F*</sup> ENGR 223: Strength of Materials <sup>F*</sup> CHEM 231: General Chemistry I <sup>F</sup>  <i>Advanced Integrative Seminar<sup>2*</sup></i>	<b>Spring Semester 3</b>  ENGR 394: Ethics Capstone (2)*  <i>BITH 315: Christian Thought*</i> <i>Thematic Core Courses (8)<sup>2</sup></i> <i>Visual &amp; Performing Arts (2)<sup>2</sup></i>	<b>Summer 3</b>  <i>Consider study, internship or research options.</i>
All courses below this line are based on completion at Illinois Tech.		
<b>Fall Semester 4</b>  CAE 105: Geodetic Science (Surveying) (3) CAE 221: Geology (3) CAE 302: Fluid Mechanics & Hydraulics (3) CAE 303: Structural Design 1 (3) CAE 304: Structural Analysis 1 (3) CAE 315: Materials of Construction (3)	<b>Spring Semester 4</b>  CAE 307: Structural Design 2 (3) CAE312: Engineering Systems Analysis (3) CAE 323: Introduction to Geotechnical Engineering (3) IPRO: IPRO Elective 1 (3) CAE Technical Elective 1 (3)	<b>Summer 4</b>  <i>Consider study, internship or research options.</i>
<b>Fall Semester 5</b>  CAE 419: Transportation Engineering & Design (3) CAE 431: Steel Design (3) CAE 457: Geotechnical Found. Design (3) CAE 470: Construction Methods & Cost Estimating (3) CAE Technical Elective 2 (3)	<b>Spring Semester 5</b>  CAE 432: Concrete & Found. Design (3) CAE 400+: Technical Elective 3 (3) CAE 400+: Technical Elective 4 (3) IPRO: IPRO Elective 2 (3) CAE 495: Senior Capstone (3) Fundamentals of Engineering Exam (0)	<b>Summer 5</b>

### Notes or Special Guidance for Majors:

\*Course has prerequisite

<sup>F</sup> Fall only course

<sup>S</sup> Spring only course

<sup>#</sup> Offered every other year

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

<sup>2</sup> 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.

-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](mailto:jeff.yoder@wheaton.edu).