Mechanical Engineering with Northern Illinois University (NIU)

Major Academic Plan (MAP) for Catalog Year 2024-2025

Major hours at Wheaton = 51

Total Major hours at Wheaton: 51
Suggested hours per semester: 16-18

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**	**Summer 1**
MATH 235: Calculus I[1]* PHYS 231: Introductory Physics I[F, 1]* ENGR 101: Intro. to Engineering (1)[S] *CORE 101: First Year Seminar* *CORE 131: Holistic Human Flourishing (1)* *ENGW 103: Writing*	MATH 236: Calculus II* PHYS 232: Introductory Physics II[S]* ENGR 132: Engineering Graphics and CAD (3) *BITH or ARCH 211 Old Testament* *COMM 101: Oral Communication (2)*	*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* PHYS/ENGR 334: Computer Modeling of Physical Systems (2)[F]* ENGR 211: Statics[F]* (3) *Thematic Core Course[2]* *Language Core Competency*	MATH 333: Differential Equations* ENGR 212: Dynamics[S]* (3) ENGR 214: Innovative Design in Engr.[S]*(3) *BITH or ARCH 213 New Testament* *Visual & Performing Arts (2)[2]*	*Consider study, internship or research options*
Fall Semester 3	**Spring Semester 3**	**Summer 3**
CHEM 231: General Chemistry I[F] ENGR 313 Mechanics of Materials[F]* *Advanced Integrative Seminar[2]** *Thematic Core Course (4)[2]*	ENGR 225: Material Science for Engineering[5]* ENGR 394/494: Ethics Capstone (2)* *BITH 315: Christian Thought** *Thematic Core Course (4)[2]* *Visual & Performing Arts(2)*	*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**
MEE 320 : Mechanism Design & Analysis (3) *MEE 321: Mechanical Vibrations I (3)* *MEE 340 : Fluid Mechanics (3)* *ELE 210 & 210U: Engineering Circuit Analysis* *ISYE 220: Engineering Economy (3)*	*MEE 322: Dynamic systems & 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)*	*Consider study, internship or research options*

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Fall Semester 5	Spring Semester 5	Summer 5
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)* *Technical Elective 2 (3)*	*MEE 452: Design of thermal systems (3)* *MEE 486: Senior Mechanical Engineering Design II (3)* *MEE 494: Mechanical engineering competency (1)* *Technical Elective 3 (3)* *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 235 (AAQR), PHYS 231 (SP), PSYC 101 (SI), ECON 211 (SI). Engineering majors should use the Engineering checklist for CATC. A maximum of 3 tags can count for both CATC and the major.

[2] 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 (link does not work). Please contact the Engineering Program Director, Jeff Yoder with questions. He can be reached at jeff.yoder@wheaton.edu.