Total Major hours at Wheaton: 55 Suggested hours per semester: 16-18

with Northern Illinois University (NIU)

Major Academic Plan (MAP) for Catalog Year 2021-2022

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.

	cing may vary depending on course offer	
Fall Semester 1	Spring Semester 1	Summer 1
MATH 231: Calculus I ^{1*} PHYS 231: Introductory Physics I ^{F, 1*}	MATH 232: Calculus II* PHYS 232: Introductory Physics II ^s *	Consider study, internship or research
ENGR 101: Intro. to Engineering (1) ^S		options –Wheaton In summer program, WIN (HoneyRock), non-major internship,
CORE 101: First Year Seminar	ENGW 103: Writing BITH or ARCH 211 Old Testament	summer research or other options that provide work experience, build your
Language Core Competency	AHS 101: Wellness (2)	resume, or grow you personally.
Fall Semester 2	Spring Semester 2	Summer 2
MATH 333: Differential Equations*	MATH 331: Vector Calculus (2)*	Consider study, internship or research
PHYS 334: Computer Modeling of Physical Systems (2) ^{F*}	ENGR 130: Engineering Graphics and CAD ENGR 202: Dynamics ^s *	options – Wheaton In summer program,
ENGR 201: Statics ^{F*}	LINGR 202. Dynamics	WIN (HoneyRock), non-major internship, summer research or other options that
COMM 101: Oral Communication (2)	Thematic Core Course ²	provide work experience, build your
Thematic Core Course ²	BITH or ARCH 213 New Testament	resume, or grow you personally.
Visual & Performing Arts(2)		
Fall Semester 3	Spring Semester 3	Summer 3
CHEM 231: General Chemistry I ^F	ENGR 225: Material Science ⁵ *	Consider study, internship or research
ENGR 204: Innovative Design in Engr. ^{F*}	ENGR 394: Ethics Capstone (2)*	options –Wheaton In summer program,
ENGR 223: Strength of Materials ^F *		WIN (HoneyRock), non-major internship,
	BITH 315: Christian Thought*	summer research or other options that
Advanced Integrative Comingr ² *	Visual & Darforming Arts (2)2	-
Advanced Integrative Seminar ² *	Visual & Performing Arts (2) ² Thematic Core Course ²	provide work experience, build your
	Thematic Core Course ²	-
Advanced Integrative Seminar ² * All courses below this line are based on co Fall Semester 4	Thematic Core Course ²	provide work experience, build your
All courses below this line are based on co Fall Semester 4	Thematic Core Course ² mpletion at NIU Spring Semester 4	provide work experience, build your resume, or grow you personally. Summer 4
All courses below this line are based on co	Thematic Core Course ²	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or
All courses below this line are based on co Fall Semester 4 MEE 320 : Mechanism Design & Analysis (3) MEE 321: Mechanical Vibrations I (3)	Thematic Core Course ² mpletion at NIU Spring Semester 4 MEE 322: Dynamic systems & control I (3)	provide work experience, build your resume, or grow you personally. Summer 4
All courses below this line are based on co Fall Semester 4 MEE 320 : Mechanism Design & Analysis (3) MEE 321: Mechanical Vibrations I (3) MEE 340 : Fluid Mechanics (3)	Thematic Core Course ² mpletion at NIU Spring Semester 4 MEE 322: Dynamic systems & control I (3) MEE 331: Manufacturing processes (3) MEE 350: Engineering Thermodynamics (3)	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or
All courses below this line are based on co Fall Semester 4 MEE 320 : Mechanism Design & Analysis (3) MEE 321: Mechanical Vibrations I (3) MEE 340 : Fluid Mechanics (3) ELE 210 & 210U: Engineering Circuit	Thematic Core Course ² mpletion at NIU Spring Semester 4 MEE 322: Dynamic systems & control I (3) MEE 331: Manufacturing processes (3) MEE 350: Engineering Thermodynamics (3) MEE 383: Engineering Analysis (3)	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or
All courses below this line are based on co Fall Semester 4 MEE 320 : Mechanism Design & Analysis (3) MEE 321: Mechanical Vibrations I (3) MEE 340 : Fluid Mechanics (3) ELE 210 & 210U: Engineering Circuit Analysis	Thematic Core Course ² mpletion at NIU Spring Semester 4 MEE 322: Dynamic systems & control I (3) MEE 331: Manufacturing processes (3) MEE 350: Engineering Thermodynamics (3)	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or
All courses below this line are based on co Fall Semester 4 MEE 320 : Mechanism Design & Analysis (3) MEE 321: Mechanical Vibrations I (3) MEE 340 : Fluid Mechanics (3) ELE 210 & 210U: Engineering Circuit	Thematic Core Course ² mpletion at NIU Spring Semester 4 MEE 322: Dynamic systems & control I (3) MEE 331: Manufacturing processes (3) MEE 350: Engineering Thermodynamics (3) MEE 383: Engineering Analysis (3)	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or
All courses below this line are based on co Fall Semester 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) Fall Semester 5	Thematic Core Course ² mpletion at NIU Spring Semester 4 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) Spring Semester 5	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or research options.
All courses below this line are based on co Fall Semester 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)	Thematic Core Course ² mpletion at NIU Spring Semester 4 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)	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or research options.
All courses below this line are based on co Fall Semester 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) Fall Semester 5 MEE 352: Heat transfer (3) MEE 380: Computational methods in engineering design (3)	Thematic Core Course ² mpletion at NIU Spring Semester 4 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) Spring Semester 5 MEE 452: Design of thermal systems (3) MEE 486: Senior Mechanical Engineering Design II (3)	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or research options.
All courses below this line are based on co Fall Semester 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) Fall Semester 5 MEE 352: Heat transfer (3) MEE 380: Computational methods in engineering design (3) MEE 390: Experimental Methods in	Thematic Core Course ² mpletion at NIU Spring Semester 4 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) Spring Semester 5 MEE 452: Design of thermal systems (3) MEE 486: Senior Mechanical Engineering Design II (3) MEE 494: Mechanical engineering	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or research options.
All courses below this line are based on co Fall Semester 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) Fall Semester 5 MEE 352: Heat transfer (3) MEE 380: Computational methods in engineering design (3) MEE 390: Experimental Methods in mechanical engineering I (3)	Thematic Core Course ² mpletion at NIU Spring Semester 4 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) Spring Semester 5 MEE 452: Design of thermal systems (3) MEE 486: Senior Mechanical Engineering Design II (3) MEE 494: Mechanical engineering competency (1)	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or research options.
All courses below this line are based on co Fall Semester 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) Fall Semester 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	Thematic Core Course ² mpletion at NIU Spring Semester 4 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) Spring Semester 5 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)	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or research options.
All courses below this line are based on co Fall Semester 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) Fall Semester 5 MEE 352: Heat transfer (3) MEE 380: Computational methods in engineering design (3) MEE 390: Experimental Methods in mechanical engineering I (3)	Thematic Core Course ² mpletion at NIU Spring Semester 4 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) Spring Semester 5 MEE 452: Design of thermal systems (3) MEE 486: Senior Mechanical Engineering Design II (3) MEE 494: Mechanical engineering competency (1)	provide work experience, build your resume, or grow you personally. Summer 4 Consider study, internship or research options.
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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), PSYC 101 (SI), ECON 211 (SI). Engineering majors should use the <u>Engineering checklist</u> 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 <u>Engineering Department webpage</u>. Please contact the Engineering Coordinator, Jeff Yoder with questions. He can be reached at <u>jeff.yoder@wheaton.edu</u>.