

OSU - College of Engineering, Architecture & Technology

REFER TO THE CATALOG TO CONFIRM
PREREQUISITE COURSES

Mechanical Engineering, 2024-2025

Semester 1, 17 credit hours	Semester 2, 16 credit hours	Semester 3, 16 credit hours	Semester 4, 14 credit hours
<div style="border: 1px solid orange; padding: 5px; margin-bottom: 10px; text-align: center;"> UNIV 1111 <u>First Yr Seminar</u> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> MATH 1513 ALEKS >=56 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> CHEM 1414 <u>Chem for Engineers</u> </div> <div style="width: 40%;"> ENSC 2213 ENSC 3313 </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 40%;"> ENGR 1332 <u>CAD/SolidWorks For MAE</u> </div> <div style="width: 40%;"> MATH 1813 ALEKS >=75 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> MATH 2144 <u>Calc 1</u> </div> <div style="width: 40%;"> MATH 2153 PHYS 2014 ENSC 2113 ENSC 2213 </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 40%;"> 1ENGL 1113 <u>Comp 1</u> </div> <div style="width: 40%;"> ENGL 1213 </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 40%;"> POLS 1113 Am Govt </div> </div>	<div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> ENGR 1412 <u>Intro Eng Computer Prgrm</u> </div> <div style="width: 40%;"> MAE 3403 </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> HIST 1103 or 1483 or 1493 Am History </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> MATH 2144 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> PHYS 2014 <u>Physics 1</u> </div> <div style="width: 40%;"> ENSC 2113 ENSC 2213 PHYS 2114 MAE 3013 </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> MATH 2144 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> MATH 2153 <u>Calc 2</u> </div> <div style="width: 40%;"> MATH 2163 MATH 2233 ENSC 2613 MAE 3333 IEM 3503 </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> ENGL 1113 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> 1ENGL 1213 <u>Comp 2</u> </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> 2ENGR 2421 <u>Data Acq Ctrl Lab</u> </div> <div style="width: 40%;"> MAE 3333_{cc} MAE 3724 MAE 4344 </div> </div>	<div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> MATH 2144 PHYS 2014 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> ENSC 2113 <u>Statics</u> </div> <div style="width: 40%;"> ENSC 2123 ENSC 2143 MAE 3333 MAE 3153_{cc} </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> CHEM 1314, 1414, or 1515 MATH 2144 PHYS 2014 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> ENSC 2213 <u>Thermo</u> </div> <div style="width: 40%;"> MAE 3153_{cc} </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> PHYS 2014 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> PHYS 2114 <u>Physics 2</u> </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> MATH 2153 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> MATH 2163 <u>Calc 3</u> </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> MATH 2153 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> MATH 2233 <u>Diff Eq</u> </div> <div style="width: 40%;"> MAE 3013 </div> </div>	<div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> ENSC 2113 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> ENSC 2123 <u>Dynamics</u> </div> <div style="width: 40%;"> MAE 3403 MAE 3724 </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> ENSC 2113 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> ENSC 2143 <u>Strengths</u> </div> <div style="width: 40%;"> MAE 3324 </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> ENSC 2113 MATH 2153 ENGR 2421_{cc} </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> MAE 3333 <u>Fluids</u> </div> <div style="width: 40%;"> MAE 3233_{cc} </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> #-U '1314, 1414, or 1515 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> ENSC 3313 <u>Materials Science</u> </div> <div style="width: 40%;"> MAE 3324 </div> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 10px;"> <div style="width: 40%;"> See note 2 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> Engineering Science <u>Laboratory</u> </div> <div style="width: 40%;"> MAE 4344 </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> See note 2 </div> <div style="border: 1px solid orange; padding: 5px; text-align: center; width: 40%;"> Engineering Science <u>Laboratory</u> </div> <div style="width: 40%;"> MAE 4344 </div> </div>

Summary of Graduation and School Requirements: Please consult Degree Requirements published in official University Catalog for specific course letter grade requirements Graduation Requirements.

1. If a "B" or better is earned in ENGL 1113 or 1313, ENGL 3323 may be substituted for ENGL 1213 or 1413 (per Academic Regulation 3.5)
2. In order to fulfill the ENSC Lab requirement you must complete ENGR 2421 and select two labs from list found on published Degree Requirements in University Catalog.

121 hours		
Required for Course ABC	Course ABC	Course ABC is required for the following courses

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Mechanical Engineering, 2024-2025

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PREREQUISITE COURSES

Semester 5, 15 credit hours	Semester 6, 15 credit hours	Semester 7, 15 credit hours	Semester 8, 13 credit hours
<p>MAE 3333_{cc} MAE 3233 Heat Transfer MAE 3524</p> <p>ENSC 2113_{cc} MAE 3153 Intro ME Design MAE 3324 ENSC 2213_{cc} MAE 4243 MAE 3524</p> <p>MATH 2233 MAE 3013 Engr Analysis MAE 3724 PHYS 2014 MAE 3403</p> <p>MATH 2153 ENSC 2613 Circuits MAE 3724</p> <p>MATH 2153 IEM 3503 Engr Econ</p>	<p>ENSC 2213 MAE 3524 Thermal Fluids Design MAE 4344 MAE 3153 Various Electives MAE 3233 MAE 3333</p> <p>MAE 3153 MAE 3324 Mech Des 1 MAE 4344 ENSC 3313 Various Electives ENSC 2143</p> <p>ENGR 2421 MAE 3724 Systems Analysis MAE 3403_{cc} ENSC 2123 MAE 4344 ENSC 2613 Various Electives MAE 3013</p> <p>ENGR 1412 MAE 3403 Computer Methods Various Electives ENSC 2123 MAE 3013 MAE 3724_{cc}</p>	<p>Prereqs Vary by Course 4 MAE CAT I Elective</p> <p>Prereqs Vary by Course 6 MAE Elective</p> <p>Prereqs Vary by Course 7 Tech Elective</p> <p>3 Basic Science</p> <p>8 Social & Behavioral Scienes (S)</p>	<p>MAE 3524 5 MAE 4344 Senior Design Project MAE 3324 MAE 3724 ENGR 2421 See notes 2 and 5</p> <p>Prereqs Vary by Course 6 MAE Elective</p> <p>8 Humanities (H)</p> <p>8 Humanities (H)</p>

1. If a "B" or better is earned in ENGL 1113 or 1313, ENGL 3323 may be substituted for ENGL 1213 or 1413 (per Academic Regulation 3.5)
2. In order to fulfill the ENSC Lab requirement you must complete ENGR 2421 and select two labs from list found on published Degree Requirements in University Catalog.
3. Basic Science Elective: select from ASTR 1013, 1023, BIOL 1113, CHEM 1314, 3053, GEOL 1114, 3413, PHYS 3213, 3313, 3713.
4. Category (CAT) I - MAE 4243, 4263, 4353, 4363, 4513, 4623, 4703, 4713, or 4723 (See Catalog for Prerequisites). For AERS dual degree CAT I is equal to MAE 4243 or 4513.
5. Category (CAT) II - MAE 4344 or MAE 4354 (See Catalog for Prerequisites).
6. MAE Elective (6 hours) - MAE 3033, 3123, 3223, 3253, 3293, 4003, 4010, 4020, 4053, 4063, 4273, 4313, 4333, 4583, 4733 or courses in the Category I listed above, but not used to satisfy the category requirement. (See Catalog for Prerequisites) For AERS dual degree MAE Elective is equal to 3253, 3293.
7. 3 hours of technical elective to be selected from list found in Degree Requirements.
8. You must complete 6 hours of Humanities (H) credits and 3 hours of Social and Behavioral Science (S) credits. You are also required to meet the Board of Regents Diversity (D) and International (I) attributes by completing one course in each dimension. These attributes can be combined with your (H) and (S) requirements.

8 International
Attribute (I)

8 Diversity
Attribute (D)

MAE ELECTIVE COURSES

**The listed courses are all electives in the MAE Catalog, courses offered vary by campus, semester, and faculty availability, please speak with your academic advisor about course availability.*

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Category I Electives		MAE Electives		MAE Electives	
MAE 3153 MAE 3524	MAE 4263 Energy Conversion Systems	ENGR 1332 MAE 3013 MAE 3324	MAE 3033 Design of Machines and Mechanisms	ENSC 3313	MAE 4583 Corrosion
MAE 3324	MAE 4353 Mechanical Design II	ENSC 3313	MAE 3123 Manufacturing Processes	MAE 3153 MAE 3403 ENGR 2421 ENSC 2411	MAE 4733 Mechatronics Design
MAE 3324 ENSC 2613	MAE 4363 Advanced Methods in Design	MAE 3153	MAE 3223 Thermodynamics II	Aerospace MAE Electives	
MATH 2163 MAE 3153 MAE 3324	MAE 4623 Biomechanics	MAE 3403 (MAE 3724 or ECEN 3723)	MAE 4003 Introduction to Autonomous Systems	MATH 2233 MAE 3293	MAE 3253 Applied Aerodynamics and Performance
MAE 3524	MAE 4703 Design of Indoor Environmental Systems	Consent of Instructor and Advisor	MAE 4010 MAE Engineering Special Project	MATH 2233 MAE 3333	MAE 3293 Fundamentals of Aerodynamics
MAE 3524	MAE 4713 Thermal Systems Realization	(MAE 3724 or ECEN 3723)	MAE 4053 Automatic Control Systems	MAE 3253 ENGR 2421 ENSC 2411 _{cc}	MAE 4213 Spacecraft Design
MAE 3524	MAE 4723 Refrigeration Systems Design	MAE 3724	MAE 4063 Mechanical Vibrations		
Aerospace Category I Electives		MAE 3333 ENGR 2421 ENSC 3231 _{cc}	MAE 4273 Experimental Fluid Dynamics		
MAE 3153 MAE 3293	MAE 4243 Aerospace Propulsion and Power	ENSC 3313 MAE 3153	MAE 4313 Advanced Processing of Engineered Materials		
MAE 3324 MAE 3403 MAE 3253	MAE 4513 Aerospace Structures	ENSC 3313 ENGR 2421	MAE 4333 Mechanical Metallurgy		