

# Mechanical Engineering

## 4-Year Study Plan (Fall 2024 and After)

First Year	
Fall	Spring
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>MATH 180</b> (4)                      MATH 121 (≥C) or Department Placement Test                      F&amp;S PW: 7                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 250</b> (3)                      Eligible to register for ENGL 160 or credit in ENGL 160                      F&amp;S PW: 4                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ENGL 160</b> (3)                      Department Placement Test                      F&amp;S PW: 2                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>CHEM 122</b> (3)  <b>CHEM 123</b> (2)                      CHEM 101 (≥C) or Department Placement Test                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ENGR 100</b> (0)                      Admission to COE Freshman and Transfer Only                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Gen. Ed.</b> (3)                      Select from one of five General Education Core categories                      F&amp;S PW: 1                 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>MATH 181</b> (4)                      MATH 180 (≥C)                      F&amp;S PW: 6                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>PHYS 141</b> (4)                      [Credit or Concurrent Registration in MATH 180 (≥C)] and [PHYS 100 (≥C) or Department Placement Test]                      F&amp;S PW: 6                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>CS 109</b> (3)                      Credit or Concurrent Registration in MATH 180                      F&amp;S PW: 2                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ENGL 161</b> (3)                      ENGL 160 or waiver and consent                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Gen. Ed.</b> (3)                      Select from one of five General Education Core categories                      F&amp;S PW: 1                 </div>
18 Credit Hours	17 Credit Hours

Second Year	
Fall	Spring
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>MATH 210</b> (3)                      MATH 181 (≥C)                      F&amp;S PW: 5                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>CME 201</b> (3)                      MATH 181 and PHYS 141                      F&amp;S PW: 5                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>IE 201</b> (3)                      MATH 181                      F&amp;S PW: 3                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ECE 210</b> (3)                      Credit or Concurrent Registration in MATH 180                      F&amp;S PW: 2                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>PHYS 142</b> (4)                      [Credit or Concurrent Registration in MATH 181 (≥C)] and PHYS 141 (≥C)                      F&amp;S PW: 1                 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>MATH 220</b> (3)                      MATH 210 (≥C)                      F&amp;S PW: 4                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>CME 203</b> (3)                      CME 201                      F&amp;S PW: 4                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 210</b> (3)                      CME 201                      F&amp;S PW: 3                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>MATH 310</b> (3)                      MATH 181 (≥C)                      F&amp;S PW: 2                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 205</b> (3)                      PHYS 141 and MATH 181                      F&amp;S PW: 2                 </div>
16 Credit Hours	15 Credit Hours

Third Year	
Fall	Spring
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 347</b> (3)                      MATH 220 and CME 203 and ME250                      F&amp;S PW: 3                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 211</b> (4)                      MATH 220 and PHYS 141                      F&amp;S PW: 2                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 320</b> (3)                      ME210                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 380</b> (3)                      CME 203                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Gen. Ed.</b> (3)                      Select from one of five General Education Core categories                      F&amp;S PW: 1                 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 370</b> (3)                      CME 203 and ME 250                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>IE 342</b> (3)                      MATH 181                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 328</b> (3)                      CS 109 and MATH 310                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 321</b> (4)                      ME 205 and (Credit or Concurrent Registration in ME 211)                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Tech. Elective</b> (3)                      Select from any 400-level ME course or ME 308, ME 325, ME 392, ECE 458, CME 434                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Gen. Ed.</b> (3)                      Select from one of five General Education Core categories                      F&amp;S PW: 1                 </div>
16 Credit Hours	16 Credit Hours

Fourth Year	
Fall	Spring
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 396</b> (3)                      IE 201 and ME 347 and Senior Standing                      Fall Only PW: 2                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 312</b> (3)                      MATH 220 and CS109 and ECE 210                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Free Elective</b> (3)                      Select any non-required course, not lower than a previously taken or required course                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Tech. Elective</b> (3)                      Select from any 400-level ME course or ME 308, ME 325, ME 392, ECE 458, CME 434                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Gen. Ed.</b> (3)                      Select from one of five General Education Core categories                      F&amp;S PW: 1                 </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 397</b> (3)                      Must be taken final semester after ME 396                      Spring Only PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 341</b> (3)                      CME203 and ME211                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>ME 499</b> (0)                      Must be taken final semester                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Tech. Elective</b> (3)                      Select from any 400-level ME course or ME 308, ME 325, ME 392, ECE 458, CME 434                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Tech. Elective</b> (3)                      Select from any 400-level ME course or ME 308, ME 325, ME 392, ECE 458, CME 434                      F&amp;S PW: 1                 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Gen. Ed.</b> (3)                      Select from one of five General Education Core categories                      F&amp;S PW: 1                 </div>
15 Credit Hours	15 Credit Hours

Legend
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>Course Code (Credits)</b>                      Prerequisites or Corequisites                      Term Offered      Positional Weight                 </div>
<p><b>Blue Box:</b> Part of prerequisite chain  <b>Red Box:</b> Terminal class</p> <p><b>Term Offered:</b> Whether the class is offered in Fall Only, Spring Only, or Fall &amp; Spring.</p> <p><b>Positional Weight (PW):</b> The number of classes remaining in the prerequisite chain. The higher the number, the more important the class is to be taken the proposed semester. PW-1 is the number of semesters remaining to a possible graduation.</p>

Additional Information		
<p><b>Equivalent Courses:</b>                      CHEM 122 &amp; 123 = CHEM 112 (≥C) = CHEM 116 (≥C)                      MATH 180 = MATH 165 = MATH 170                      ME 328 = ME 428                      MATH 310 = MATH 320 (With petition)                      ECE 210 = ECE 225 (With petition)                      CS 109 = CS 111 = MCS 260 (With petition)</p>	<p><b>Free Elective - Outside the Major Rubric:</b>                      The free elective is an <u>elective outside of the Major Rubric</u> (required classes). Students may use this to expand their knowledge in a subject matter. Many classes not required by the ME degree may satisfy this requirement, provided:                      1) The class must be credit granting and 100+ level                      2) The class must be higher level than a previously taken course (if one was taken)</p> <p>Examples of Free Electives may be:                      - An additional Gen. Ed. of interest to the student                      - An additional ME technical elective of interest to the student</p> <p>Note: A Modification of Major form may be needed to approve some Free Electives.</p>	<p><b>Technical Electives:</b>                      Technical Electives may be any 400-level ME class, that is of interest to the student, except ME 496, ME 497, and ME 499.                      Note: Most 400-level classes are only offered once or less per year.</p> <p>Additional Technical Electives include:                      ME 308 - Mechanical Vibrations                      ME 325 - Intermediate Thermodynamics                      ME 348 - Artificial Intelligence and Data Mining                      ECE 458 - Electromechanical Energy Conversion                      CME 434 - Finite Element Analysis I</p> <p>ME 392 - Undergraduate Research                      Requires: 1) faculty approval, 2) a research proposal, and 3) approval of Director of Undergraduate Studies.</p>
<p><b>Required General Education Core Categories:</b>                      Understanding the Individual and Society                      Understanding the Past                      Understanding the Creative Arts                      Understanding U.S. Society                      Exploring World Cultures</p> <p><b>One general education course from each category must be completed with a satisfactory grade.</b></p>		