The following curriculum applies to students who entered the College of Engineering after fall 2018.

### SUMMARY OF REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td>Mathematics and Statistics</td>
<td>22</td>
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<tr>
<td></td>
<td>Science</td>
<td>10</td>
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<tr>
<td></td>
<td>Engineering Science</td>
<td>27</td>
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<tr>
<td></td>
<td>Engineering Mechanics/Astronautics Core</td>
<td>40</td>
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<tr>
<td></td>
<td>Technical Electives</td>
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<td></td>
<td>Communication Skills</td>
<td>8</td>
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<tr>
<td></td>
<td>Liberal Studies</td>
<td>16</td>
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<td></td>
<td><strong>Total Credits</strong></td>
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### MATHEMATICS AND STATISTICS

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>MATH 221</td>
<td>Calculus and Analytic Geometry I</td>
<td>5</td>
</tr>
<tr>
<td>or MATH 217</td>
<td>Calculus with Algebra and Trigonometry II</td>
<td>5</td>
</tr>
<tr>
<td>or MATH 275</td>
<td>Calculus and Analytic Geometry II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 222</td>
<td>Calculus and Analytic Geometry 2</td>
<td>4</td>
</tr>
<tr>
<td>or MATH 276</td>
<td>Calculus and Analytic Geometry II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 234</td>
<td>Calculus--Functions of Several Variables</td>
<td>4</td>
</tr>
<tr>
<td>MATH 320</td>
<td>Linear Algebra and Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 321</td>
<td>Applied Mathematical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>STAT 324</td>
<td>Introductory Applied Statistics for Engineers</td>
<td>3</td>
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<td><strong>Total Credits</strong></td>
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### SCIENCE

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHEM 109</td>
<td>Advanced General Chemistry</td>
<td>5</td>
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<tr>
<td>CHEM 103 &amp; CHEM 104</td>
<td>General Chemistry I and General Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td>PHYSICS 202</td>
<td>General Physics</td>
<td>5</td>
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<td><strong>Total Credits</strong></td>
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### ENGINEERING SCIENCE

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>INTEREG1 70</td>
<td>Design Practicum</td>
<td>3</td>
</tr>
<tr>
<td>M E 231</td>
<td>Geometric Modeling for Design and Manufacturing</td>
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<td><strong>Total Credits</strong></td>
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### ENGINEERING MECHANICS/ASTRONAUTICS CORE

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>E M A 201</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>E M A 202</td>
<td>Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>or M E 240</td>
<td>Dynamics</td>
<td>3</td>
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<tr>
<td>E M A 303</td>
<td>Mechanics of Materials</td>
<td>3</td>
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<tr>
<td>or M E 306</td>
<td>Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>E M A/M E 307</td>
<td>Mechanics of Materials Lab</td>
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</tr>
<tr>
<td>E M A 405</td>
<td>Practicum in Finite Elements</td>
<td>3</td>
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<tr>
<td>E M A 469</td>
<td>Design Problems in Engineering</td>
<td>3</td>
</tr>
<tr>
<td>E M A 506</td>
<td>Advanced Mechanics of Materials I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Experimental Mechanics Elective (select one)</td>
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<tr>
<td>E M A/M E 540</td>
<td>Experimental Vibration and Dynamic System Analysis</td>
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</tr>
<tr>
<td>E M A/M E 570</td>
<td>Experimental Mechanics</td>
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<tr>
<td>E M A 611</td>
<td>Advanced Mechanical Testing of Materials</td>
<td>3</td>
</tr>
<tr>
<td>E M A 522</td>
<td>Aerodynamics Lab</td>
<td>3</td>
</tr>
<tr>
<td>E M A 521</td>
<td>Aerodynamics</td>
<td>3</td>
</tr>
<tr>
<td>or M E 563</td>
<td>Intermediate Fluid Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>E M A 542</td>
<td>Advanced Dynamics</td>
<td>3</td>
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<tr>
<td>E M A 545</td>
<td>Mechanical Vibrations</td>
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<tr>
<td>E M A 569</td>
<td>Senior Design Project</td>
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<td></td>
<td>Spacecraft &amp; Structural Dynamics Elective (select one)</td>
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<td>E M A/ASTRON 550</td>
<td>Astrodynamics</td>
<td>3</td>
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<tr>
<td>E M A 610</td>
<td>Structural Finite Element Model Validation</td>
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<tr>
<td>E M A 642</td>
<td>Satellite Dynamics</td>
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</table>
Aerospace Fluid Mechanics Elective (select one) 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EMA 523</td>
<td>Flight Dynamics and Control</td>
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<tr>
<td>EMA 601</td>
<td>Special Topics in Engineering Mechanics (Topic: Rocket Propulsion)</td>
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</tr>
<tr>
<td>or EMA 524</td>
<td>Rocket Propulsion</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 40

TECHNICAL ELECTIVES

Code   Title                          Credits
Select five credits at an academic level that requires 2 semesters of calculus or 2 semesters of physics as a prerequisite. EMA 1 may also be used to satisfy this requirement.

COMMUNICATION SKILLS

Code   Title                          Credits
ENGL 100 | Introduction to College Composition          | 3 |
or COM ARTS 100 | Introduction to Speech Composition | |
or LSC 100 | Science and Storytelling                 | |
or ESL 118 | Academic Writing II                      | |
EP D 275 | Technical Presentations                   | 2 |
INTEREGR 397 | Engineering Communication      | 3 |

Total Credits 8

LIBERAL STUDIES

Code   Title                          Credits
College of Engineering Liberal Studies Requirements
Complete Requirements [1]          16 |

Total Credits 16

1

Students must take 16 credits that carry H, S, L, or Z breadth designators. These credits must fulfill the following subrequirements:
1. A minimum of two courses from the same subject area ([https://registrar.wisc.edu/subjectareas/](https://registrar.wisc.edu/subjectareas/)) (the description before the course number). At least one of these two courses must be designated as above the elementary level (I, A, or D) in the course listing.
2. A minimum of 6 credits designated as humanities (H, L, or Z in the course listing), and an additional minimum of 3 credits designated as social science (S or Z in the course listing). Foreign language courses count as H credits. Retroactive credits for language courses may not be used to meet the Liberal Studies credit requirement (they can be used for subrequirement 1 above).
3. At least 3 credits in courses designated as ethnic studies (lower case "e" in the course listing). These courses may help satisfy subrequirements 1 and 2 above, but they count only once toward the total required. Note: Some courses may have "e" designation but not H, S, L, or Z designation; these courses do not count toward the Liberal Studies requirement.

HONORS IN UNDERGRADUATE RESEARCH

Qualified undergraduates may earn an Honors in Research designation on their transcript and diploma by completing 8 credits of undergraduate honors research, including a senior thesis. Further information is available in the department office.

For information on credit load, adding or dropping courses, course substitutions, pass/fail, auditing courses, dean’s honor list, repeating courses, probation, and graduation, see the College of Engineering Official Regulations ([http://guide.wisc.edu/undergraduate/engineering/#policiesandregulationstext](http://guide.wisc.edu/undergraduate/engineering/#policiesandregulationstext)).