### Astronautical Engineering

<table>
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<th>FIRST YEAR</th>
<th>FALL</th>
<th>SPRING</th>
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<tr>
<td>WRIT 150</td>
<td>GESM (GE B)*</td>
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<tr>
<td>ASTE 101L</td>
<td>GE A*</td>
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<td>MATH 125 (GE F)*</td>
<td>MATH 126 or MATH 129*</td>
<td>MATH 125</td>
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<tr>
<td>CHEM 105aL or MASC 110L*</td>
<td>PHYS 151L (GE E)</td>
<td>MATH 152</td>
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<td>ENGR 102</td>
<td>ITP 168</td>
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**Mathematics (16 Units)**
- MATH 125: Calculus I*
- MATH 126 or MATH 129: Calculus II*
- MATH 226 or MATH 229: Calculus III
- MATH 245: Mathematics of Phys. and Engr.

**Physics (12 Units)**
- PHYS 151L: Mechanics and Thermodynamics
- PHYS 152L: Electricity and Magnetism
- PHYS 153L: Optics and Modern Physics

**Chemistry/Materials Science (4 Units)**
- CHEM 105aL: General Chemistry*
- or MASC 110L: Materials Science

**General Education (32 Units)**
- GE A: The Arts (1 Course)*
- GE B: Humanistic Inquiry (2 Courses)
- GE C: Social Analysis (2 Courses)
- GE D: Life Sciences (1 Course)*
- GE E: Physical Sciences (1 Course)*
- GE F: Quantitative Reasoning (1 Course)*
- GE G, H: Global Perspectives (2 Courses)*
- GESM: General Education Seminar (1 Course)

**Writing (8 Units)**
- WRIT 150: Writing and Critical Reasoning
- WRIT 340: Advanced Writing

**ENGINEERING (68 Units)**
- AME 201: Statics
- AME 204: Strength of Materials
- AME 301: Dynamics
- AME 308: Comp. Aided Analysis for Design
- AME 313a: Mechatronics Laboratory I
- AME 313bL: Mechatronics Laboratory II
- AME 340: Comp. Solutions to Engr. Problems
- AME 341aL: Senior Projects Laboratory
- ASTE 101L: Intro. to Astronautics
- ASTE 305: Astronautics & Space Environment I
- ASTE 308: Astronautics & Space Environment II
- ASTE 311a: Spacecraft Systems Engineering
- ASTE 311b: Spacecraft Systems Engineering
- ASTE 421: Space Mission Design
- ASTE 470: Spacecraft Propulsion
- ASTE 480: Spacecraft Dynamics
- ENGR 102: Engineering Freshman Academy
- ITP 168: Introduction to MATLAB

**Technical Electives**

**SPECIAL NOTES**
Courses with the * symbol may be satisfied with AP, IB, or A-Level exams. See page 16 for more information.

**GESM**: GESM can be taken from GE categories: A, B, C, or D. Courses listed in the guide are options for a four-year course plan.

**GE**: Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by AP/IB. Additionally, your GESM course should be taken in categories A, B, C, or D only. See page 15 for more information and consult your advisor for detailed assistance.

**Optional Electives**: Consult with your academic advisor to explore optional elective courses. These courses are not required.

**Technical Electives**: Any upper-division course in engineering, chemistry, physics, and mathematics. See academic advisor for exceptions/substitutions.