# 2022 - 2023 Major Map

**Aerospace Engineering (Astronautics), BSE**

**School/College:** Ira A. Fulton Schools of Engineering  
**Location:** Tempe campus  
**ESAEASBSE**

## Term 1 0 - 16 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 265: Calculus for Engineers I (MA)</td>
<td>3</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>ASU 101-AEE: The ASU Experience</td>
<td>1</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>CHM 114: General Chemistry for Engineers (SQ) OR CHM 116: General Chemistry II (SQ)</td>
<td>4</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>ENG 101: First-Year Composition or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107: First-Year Composition OR ENG 108: First-Year Composition</td>
<td>3</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>FSE 100: Introduction to Engineering OR SES 100: Introduction to Exploration (CS)</td>
<td>2-3</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>Humanities, Arts and Design (HU) AND Cultural Diversity in the U.S. (C)</td>
<td>3</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

**Minimum 2.00 GPA ASU Cumulative.**

**Term hours subtotal:** 16-17

## Term 2 16 - 32 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 242: Elementary Linear Algebra</td>
<td>2</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>MAT 266: Calculus for Engineers II (MA)</td>
<td>3</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>PHY 121: University Physics I: Mechanics (SQ)</td>
<td>3</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>ENG 101: First-Year Composition or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107: First-Year Composition OR ENG 108: First-Year Composition</td>
<td>3</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>MAE 215: Introduction to Programming in MATLAB</td>
<td>1</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>Social-Behavioral Sciences (SB) AND Global Awareness (G)</td>
<td>3</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

**Complete ENG 101 OR ENG 102 OR ENG 105 course(s).**

**Minimum 2.00 GPA ASU Cumulative.**

**Term hours subtotal:** 16

## Term 3 32 - 46 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 201: Mechanics of Particles and Rigid Bodies I: Statics</td>
<td>3</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>MAT 267: Calculus for Engineers III (MA)</td>
<td>3</td>
<td>C</td>
<td>-</td>
</tr>
<tr>
<td>MAT 275: Modern Differential Equations (MA)</td>
<td>3</td>
<td>C</td>
<td>-</td>
</tr>
</tbody>
</table>

**Minimum 2.00 GPA ASU Cumulative.**

**Term hours subtotal:** 16

**Notes:**
- ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students.
- FSE 100 required for first-year students and should be completed the first semester.
- If ENG 105 is taken, a 3 hour applicable elective must also be taken prior to graduation. See advisor.
- Prep for success using the First-Year Student Guide.
- Join a Fulton community.
- Explore engineering and technical professions.
- Create a Handshake profile.
- Get involved with EPICS, the Generator Labs, and the Fulton Start-Up Center.
- Prep for success using the Sophomore Guide.
<table>
<thead>
<tr>
<th>Term 4</th>
<th>Credit Hours</th>
<th>Critical course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 46 - 62 | 14 | | 3 | C | **Pursue an undergraduate research experience.**  
| | | | 3 | C | **Apply for internships.**  
| | | | 3 | C | **Attend career fairs and events.** |

<table>
<thead>
<tr>
<th>Term 5</th>
<th>Credit Hours</th>
<th>Necessary course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 62 - 79 | 16 | | 3 | C | **Both AEE 360, AEE 361 and AEE 362 must be taken to secure Literacy and Critical Inquiry (L) General Studies credit.**  
| | | | 1 | C | **Plan for success using the Junior Guide.**  
| | | | 3 | C | **Network at student organization competitions or professional societies.** |

<table>
<thead>
<tr>
<th>Term 6</th>
<th>Credit Hours</th>
<th>Necessary course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 79 - 93 | 14 | | 3 | C | **Both AEE 360, AEE 361 and AEE 362 must be taken to secure Literacy and Critical Inquiry (L) General Studies credit.**  
| | | | 4 | C | **Research and prepare for graduate school.**  
| | | | 3 | C | **Apply for an engineering 4+1 program.**  
| | | | 3 | C | **Develop a professional profile online.** |

<table>
<thead>
<tr>
<th>Term 7</th>
<th>Credit Hours</th>
<th>Necessary course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 93 - 108 | 15 | | 3 | C | **Plan for success using the Senior Guide.**  
| | | | 3 | C | **Use Handshake to apply for full-time positions.**  
| | | | 3 | C | **Complete an in-person or virtual practice interview.** |

<table>
<thead>
<tr>
<th>Term 8</th>
<th>Credit Hours</th>
<th>Necessary course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>108 - 120</td>
<td>15</td>
<td></td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>
Upper Division Technical Elective | 3 | C
---|---|---
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB) | 3 |  
Humanities, Arts and Design (HU) | 3 |  
  
Term hours subtotal: 12

• For more information about Upper Division Technical Elective options, please visit: Upper Division Technical Electives.

Hide Course List(s)/Track Group(s)

Upper Division Technical Elective

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEE 313</td>
<td>Aircraft Dynamics and Control</td>
</tr>
<tr>
<td>AEE 344</td>
<td>Fundamentals of Aircraft Design</td>
</tr>
<tr>
<td>AEE 415</td>
<td>Vibration Analysis</td>
</tr>
<tr>
<td>AEE 426</td>
<td>Design of Aerospace Structures</td>
</tr>
<tr>
<td>AEE 463</td>
<td>Aircraft Propulsion</td>
</tr>
<tr>
<td>AEE 466</td>
<td>Rotary Wing Aerodynamics and Performance</td>
</tr>
<tr>
<td>AEE 471</td>
<td>Computational Fluid Dynamics</td>
</tr>
<tr>
<td>AST 321</td>
<td>Introduction to Planetary and Stellar Astrophysics</td>
</tr>
<tr>
<td>AST 322</td>
<td>Introduction to Galactic and Extragalactic Astrophysics</td>
</tr>
<tr>
<td>CHE 468</td>
<td>Polymer Principles and Processing</td>
</tr>
<tr>
<td>CHE 478</td>
<td>Biomass Energy Conversion Technology</td>
</tr>
<tr>
<td>CHE 494</td>
<td>Quantum Mechanical Simulations of Chemical Process or MSE 494: Quantum Mechanical Simulations of Chemical Process</td>
</tr>
<tr>
<td>CHE 494</td>
<td>Six Sigma Methodology/Engineering Experimentation</td>
</tr>
<tr>
<td>CHM 325</td>
<td>Analytical Chemistry</td>
</tr>
<tr>
<td>EEE 304</td>
<td>Signals and Systems II</td>
</tr>
<tr>
<td>EEE 333</td>
<td>Hardware Design Languages and Programmable Logic</td>
</tr>
<tr>
<td>EEE 334</td>
<td>Circuits II</td>
</tr>
<tr>
<td>EEE 407</td>
<td>Digital Signal Processing</td>
</tr>
<tr>
<td>EEE 480</td>
<td>Feedback Systems</td>
</tr>
<tr>
<td>EEE 481</td>
<td>Computer-Controlled Systems</td>
</tr>
<tr>
<td>EEE 498</td>
<td>Foundations Machine Learning: From Theory to Pract</td>
</tr>
<tr>
<td>EGR 317</td>
<td>Humanitarian Engineering Project II</td>
</tr>
</tbody>
</table>

• For more information about Technical Electives, please visit: Upper Division Technical Electives.
Notes:

- First-Year Composition: All students are placed in ENG 101 unless submission of SAT, ACT, Accuplacer, IELTS, or TOEFL score, or college-level transfer credit or test credit equivalent to ASU's first-year composition course(s), determine otherwise. Students on Polytechnic, Downtown Phoenix and West Campuses are encouraged to complete the Directed Self-Placement survey to choose the first-year composition option they believe best suits their needs. Visit: https://cisa.asu.edu/DSP
- Mathematics Placement Assessment score determines placement in first mathematics course.

Total Hours: 120
Upper Division Hours: 45 minimum
Major GPA: 2.00 minimum
Cumulative GPA: 2.00 minimum
Total hrs at ASU: 30 minimum
Hrs Resident Credit for Academic Recognition: 56 minimum
Total Community College Hrs: 64 maximum

General University Requirements Legend

General Studies Core Requirements:
- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Arts and Design (HU)
- Social-Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

General Studies Awareness Requirements:
- Cultural Diversity in the U.S. (C)
- Global Awareness (G)
- Historical Awareness (H)
First-Year Composition

General Studies designations listed on the major map are current for the 2022 - 2023 academic year.