# Astronautics Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AERO 351</td>
<td>Introduction to Orbital Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>AERO 355</td>
<td>Space Environments I</td>
<td>3</td>
</tr>
<tr>
<td>AERO 356</td>
<td>Space Environments II</td>
<td>3</td>
</tr>
<tr>
<td>AERO 402</td>
<td>Spacecraft Propulsion Systems</td>
<td>5</td>
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<tr>
<td>AERO 421</td>
<td>Spacecraft Attitude Dynamics and Control</td>
<td>4</td>
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<tr>
<td>AERO 446</td>
<td>Spacecraft Electrical and Electric Systems</td>
<td>4</td>
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<tr>
<td>AERO 447</td>
<td>Spacecraft Design I</td>
<td>3</td>
</tr>
<tr>
<td>AERO 448</td>
<td>Spacecraft Design II</td>
<td>3</td>
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<tr>
<td>AERO 449</td>
<td>Spacecraft Design III</td>
<td>3</td>
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**Astronautics Approved Electives**

1. Select from the following: 8
   - AERO 306 Aerodynamics and Flight Performance
   - AERO 360 Creative Problem Solving in Engineering Design
   - AERO 405 Supersonic and Hypersonic Aerodynamics
   - AERO 406 Applied Computational Fluid Dynamics
   - AERO 407 Reentry Aerodynamics
   - AERO 408 Plasma Applications in Aerospace
   - AERO 409 Flight Test
   - AERO 420 Aircraft Dynamics and Control
   - AERO 425 Aircraft Performance
   - AERO 432 Advanced Composite Structures Analysis
   - AERO 434 Aerospace Structural Analysis III
   - AERO 435 Aerospace Numerical Analysis
   - AERO 450 Introduction to Aerospace Systems Engineering
   - AERO 452 Spaceflight Dynamics II
   - AERO 470 Selected Advanced Topics
   - AERO 512 Aerospace Vehicle Software Application
   - AERO 513 Applications of Unmanned Aircraft Systems
   - AERO 515 Continuum Mechanics
   - AERO 517 Multidisciplinary Design and Optimization
   - AERO 519 Fundamentals of Vehicle Dynamics and Control
   - AERO 522 Boundary-Layer Theory
   - AERO 523 Turbulence
   - AERO 525 Computational Fluid Dynamics
   - AERO 526 Spacecraft Thermal/Fluid Control
   - AERO 528 Laminar Flow Aircraft Development
   - AERO 532 Advanced Aerospace Composite Design

**Total units**: 40

Consultation with advisor is recommended prior to selecting approved electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals. Only 4 units of 300-level coursework is allowed as an approved elective.

Require a petition.