

# ASTRONAUTICS CONCENTRATION

AERO 351	Introduction to Orbital Mechanics	4
AERO 355	Space Environments I	3
AERO 356	Space Environments II	3
AERO 402	Spacecraft Propulsion Systems	5
AERO 421	Spacecraft Attitude Dynamics and Control	4
AERO 446	Spacecraft Electrical and Electric Systems	4
AERO 447	Spacecraft Design I	3
AERO 448	Spacecraft Design II	3
AERO 449	Spacecraft Design III	3
<b>Astronautics Approved Electives <sup>1</sup></b>		
Select from the following:		8
AERO 306	Aerodynamics and Flight Performance	
AERO 360	Creative Problem Solving in Engineering Design <sup>2</sup>	
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 455	Introduction to Human Spaceflight	
AERO 470	Selected Advanced Topics	
AERO 471	Selected Advanced Laboratory	
AERO 513	Applications of Remotely Piloted Aircraft Systems	
AERO 515	Continuum Mechanics	
AERO 522	Boundary-Layer Theory	
AERO 525	Computational Fluid Dynamics	
AERO 526	Spacecraft Thermal/Fluid Control	
AERO 532	Advanced Aerospace Composite Design	
AERO 533	Finite Elements for Aerospace Structural Analysis	
AERO 534	Aerospace Structural Dynamics Analysis	
AERO 535	Advanced Aerospace Structural Analysis	

AERO 540	Elements of Rocket Propulsion
AERO 541	Air Breathing Propulsion
AERO 548	Complexity in Engineered Systems
AERO 549	Systems Engineering Applications
AERO 553	Advanced Control Theory
AERO 557	Advanced Orbital Mechanics
AERO 560	Advanced Spacecraft Dynamics and Control
AERO 561	Vehicle Integration and Testing
AERO 562	Space Operations
AERO 566	Advanced Topics in Spacecraft Design
AERO 568	Aerodynamic Research and Development I
AERO 569	Aerodynamic Research and Development II
AERO 570	Selected Advanced Topics <sup>2</sup>
AERO 571	Selected Advanced Topics Laboratory <sup>2</sup>

**Total units** **40**

<sup>1</sup> 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.

<sup>2</sup> May require a petition depending on the topic. Please consult with your advisor.