Astronautics Concentration

AER 351 Introduction to Orbital Mechanics 4
AER 355 Space Environments I 3
AER 356 Space Environments II 3
AER 402 Spacecraft Propulsion Systems 5
AER 421 Spacecraft Attitude Dynamics and Control 4
AER 446 Spacecraft Electrical and Electric Systems 4
AER 447 Spacecraft Design I 3
AER 448 Spacecraft Design II 3
AER 449 Spacecraft Design III 3

Astronautics Approved Electives

Select from the following: 8

AER 306 Aerodynamics and Flight Performance
AER 360 Creative Problem Solving in Engineering Design
AER 405 Supersonic and Hypersonic Aerodynamics
AER 406 Applied Computational Fluid Dynamics
AER 407 Reentry Aerodynamics
AER 408 Plasma Applications in Aerospace
AER 409 Flight Test
AER 420 Aircraft Dynamics and Control
AER 425 Aircraft Performance
AER 432 Advanced Composite Structures Analysis
AER 434 Aerospace Structural Analysis III
AER 435 Aerospace Numerical Analysis
AER 450 Introduction to Aerospace Systems Engineering
AER 452 Spaceflight Dynamics II
AER 455 Introduction to Human Spaceflight
AER 470 Selected Advanced Topics
AER 471 Selected Advanced Laboratory
AER 513 Applications of Remotely Piloted Aircraft Systems
AER 515 Continuum Mechanics
AER 522 Boundary-Layer Theory
AER 525 Computational Fluid Dynamics
AER 526 Spacecraft Thermal/Fluid Control
AER 532 Advanced Aerospace Composite Design
AER 533 Finite Elements for Aerospace Structural Analysis
AER 534 Aerospace Structural Dynamics Analysis
AER 535 Advanced Aerospace Structural Analysis

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

Total units: 40

1 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.

2 May require a petition depending on the topic. Please consult with your advisor.