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 1
Select from the following:  8
AER 306  Aerodynamics and Flight Performance
AER 360  Creative Problem Solving in Engineering Design 2
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 512  Aerospace Vehicle Software Application
AER 513  Applications of Unmanned Aircraft Systems
AER 515  Continuum Mechanics
AER 517  Multidisciplinary Mechanics and Optimization
AER 519  Fundamentals of Vehicle Dynamics and Control
AER 522  Boundary-Layer Theory
AER 523  Turbulence
AER 525  Computational Fluid Dynamics
AER 526  Spacecraft Thermal/Fluid Control
AER 528  Laminar Flow Aircraft Development

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 542  Electric and Advanced Propulsion
AERO 549  Systems Engineering Applications
AERO 551  Global Positioning Satellite Navigation Systems
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 567  Launch Vehicle and Missile Design
AERO 568  Aerodynamic Research and Development I
AERO 569  Aerodynamic Research and Development II
AERO 570  Selected Advanced Topics 2
AERO 571  Selected Advanced Topics Laboratory 2

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.