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

Astronautics Approved Electives 1
Select from the following: 8
AERO 306 Aerodynamics and Flight Performance
AERO 360 Creative Problem Solving in Engineering Design 2
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 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 525 Computational Fluid Dynamics
AERO 526 Spacecraft Thermal/Fluid Control
AERO 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 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 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.