Aerospace Engineering Specialization – MS:

Total: 12 units required
Non-thesis option: 10 or 11 TGS course units + 2 or 1 ME 499 projects units
Thesis option: 9 TGS course units + 3 thesis ME590 units
Minimum of five 400-level courses
Minimum of five ME courses not including ME499 or ME590
Double counting of courses used for BS is not permitted.

CORE: (3) For students who have not had equivalent courses at the undergrad level:

ME 364 Intro to Aerospace Engineering*
ME 362 Stress Analysis*
ME 373 Engineering Fluid Dynamics*
**students who have taken equivalent courses at the undergraduate level should petition out of these courses and take replacement courses from the elective buckets)*

ELECTIVES: (minimum 6)
PROJECTS: 1-2 units of **ME 499** as separate projects (non-thesis) OR 3 units of **ME 590** as a single project (thesis)

Aerospace Engineering Specialization - MS

ELECTIVES: (minimum 6)

Materials: (maximum 2)
ME 414 Mechanics of Composite Materials I
ME 495 Theory of Heterogeneous Materials
MSE 435 High Temperature Materials

Dynamics & Control: (minimum 1, maximum 2)
EE 360 Intro to Feedback Systems
EE 374 Intro to Digital Control
ME 390 Introduction to Dynamic Systems
ME 433 Mechatronics
ME 495 Mechatronics with Quadrotor Project

Mechanics: (minimum 1, maximum 3)
ME 363 Mechanical Vibrations
ME 377 Heat Transfer
ME 413 Experimental Solid Mechanics
ME 495/CEE 417 Mechanics of Continua I
ME 495/CEE 415 Theory of Elasticity
ME 425 Advanced Fluid Mechanics
ME 495 Aerodynamics
ME 395/495 Propulsion

Computational methods: (maximum 2)
ME 327 Finite Element Methods in Mechanics
ME 378 Applied Computational Fluid Dynamics & Heat Transfer
ME 423 Intro to Computational Fluid Mechanics
ME 424 Advanced CFD
ME 470 High Performance Computing for Multiphysics Applications

Design & Manufacturing: (maximum 2)
ME 341/441 Computational Methods for Engineering Design/ Engineering Optimization
ME 415 Mechanics of Manufacturing Processes
ME 395 Industry 4.0 Manufacturing

General: (maximum 2)
300/400 level courses from McCormick, Physics, Chemistry, Astronomy, or Biology