Dual Degree
AE & MSE Degree
Applies to New Students Admitted Fall 2010 through Spring 2011
Modified Nov. 2012

AE curriculum = Black
Extra courses from MSE curriculum = Red

CHEM 124 – Principles of Chemistry I (4)
CS 104 – Introduction to Computer Programming I (2)
MATH 151 – Calculus I (5)
MATH 152 – Calculus II (5)
MATH 251 – Multivariate and Vector Calculus (4)
MATH 252 – Introduction to Differential Equations (4)
PHYS 123 – General Physics I: Mechanics (4)
PHYS 221 – General Physics II: Electricity & Magnetism (4)
PHYS 224 – General Physics III for Engineers (3) or MMAE 305 – Dynamics (3)
MS 201 – Materials Science (3)
MMAE 100 – Introduction to the Profession (3)
MMAE 200 – Introduction to Mechanics (3) *
MMAE 202 – Mechanics of Solids II (3)
MMAE 304 – Mechanics of Aerostructures (3)
MMAE 311 – Compressible Flow (3)
MMAE 312 – Aerodynamics of Aerospace Vehicles (3)
MMAE 313 – Fluid Mechanics without lab (3)
MMAE 315 – Aerospace Lab I (4)
MMAE 320 – Thermodynamics (3)
MMAE 350 – Computational Mechanics (3)
MMAE 365 – Structure & Properties of Materials I (3)
MMAE 370 – Materials Lab I (3)
MMAE 372 – Aerospace Materials Lab (3)
MMAE 410 – Aircraft Flight Mechanics (3)
MMAE 411 – Spacecraft Dynamics (3)
MMAE 412 – Spacecraft Design I or MMAE 414 – Aircraft Design I (3)
MMAE 413 – Spacecraft Design II or MMAE 416 – Aircraft Design II (3)
MMAE 415 – Aerospace Lab II (4)
MMAE 443 – Systems Analysis and Control (3)
MMAE 452 – Aerospace Propulsion (3)
MMAE 463 – Structure & Properties of Materials II (3)
MMAE 465 – Electrical, Magnetic, & Optical Properties of Materials (3)
MMAE 470 – Introduction to Polymer Science (3)
MMAE 472 – Advanced Aerospace Materials (3)
MMAE 476 – Materials Lab II (3)
IPRO I (3)
IPRO II (3)
7 x Hum/SS (21)

Full AE program = 127 credits
Full MSE program credits = 126 credits
Dual degree program = 15 credits more than original single degree = 142
Extra MSE courses = 21 credits
Elective credits used for MSE courses = 6

127 (AE) + 15 (MSE) = 142 credits

Notes:
* MMAE 201 (Mechanics of Solids I) plus MMAE 305 (Dynamics) will count as MMAE 200. Students that have already taken MMAE 201 must also take MMAE 305.
** MMAE 468 (Introduction to Ceramic Materials) plus MMAE 482 (Composites) will count as MMAE 472 (Advanced Aerospace Materials)
MMAE 485 is not required for the dual AE/MSE degree, as much of the material is covered in MMAE 472.