AEROSPACE ENGINEERING
(AE) (AE)

AE 361  Fundamentals of Aerodynamics  3 cr
Conservation laws, potential flow, airfoil and wing analysis. Boundary
layer theory and pressure gradients on plates and airfoils. Introduction to
turbulent and vortex-dominated flows.
Prerequisite: (EG 360 Minimum Grade of C and MA 227 Minimum Grade
of C and PH 202 Minimum Grade of C)

AE 464  Principles of Spacecraft Design  3 cr
Introduction to space launch vehicle and spacecraft design, including
an understanding of the various subsystems and how the overall
vehicle's optimization leads to good conceptual designs. Introduction to
parameters in aerospace analysis and how they effect the design.
Prerequisite: (ME 328 Minimum Grade of C and EG 360 Minimum Grade
of C)

AE 468  Principles of Aircraft Design  3 cr
Introduction to aircraft design, including an understanding of the various
components leading to a good conceptual design. Introduction to
parameters in aerospace analysis and how they may impact a design.
Application of design concepts to an RFP (request for proposal) for
design competition.
Prerequisite: (ME 328 (may be taken concurrently) Minimum Grade of C
and EG 360 Minimum Grade of C)
Cross-Listed: ME 468

AE 470  Aircraft Structural Analysis  3 cr
Introduction to elasticity. Torsion, bending and shearing of thin-walled
skin-stringer structures. Failure mechanisms. Buckling of beams and
plates. Introduction to finite element analysis and composite structural
analysis.
Prerequisite: EG 284 Minimum Grade of C and EG 315 Minimum Grade of
C and ME 328 (may be taken concurrently) Minimum Grade of C
Cross-Listed: ME 470