AOE 2104 Introduction to Aerospace Engineering

Instructor: Frederick H. Lutze
Randolph Hall Room 219C
Phone: 231-6409
E-mail lutze@aoe.vt.edu

Text: No Text - Some Notes on line at www.aoe.vt.edu/~lutze/AOE2104

Grading:

Tests	3
Homework	3
Final	2
Total	8

Web: www.aoe.vt.edu/~lutze/AOE2104

Ground Rules: Students consult each other when doing homework, however the final effort must be individual unless otherwise specified. Essentially you can discuss methods of approach etc. but the calculations must be done independently. Likewise with any computer assignments. All class activity is assumed to be governed by the University Honor System.

Syllabus
Introduction to Aerospace Engineering

1. Introduction
    a) General Overview of Aerospace Engineering
    b) Scope of Profession

2. Atmospheric Flight
    a) Properties of air
    b The Standard Atmosphere
    c) Properties of Lifting Surfaces
    d) Aircraft Aerodynamics
    e) Propulsion Considerations
    f) Static Stability
        i) Longitudinal
        ii) Lateral-Directional
    g) Aircraft Performance
        i) Level Flight Envelope
        ii) Climb and Glide
    h) Structural Considerations

3. Space Flight
    a) The “Rocket Equation”
    b) Kepler’s Laws
    c) Orbit Properties
    d) Orbit Maneuvers
    d) Satellite Requirements and Design