THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Numerical Methods in Aerospace Engineering

AEROENG 3581

Credit Hours:
3.00

Course Levels:
Undergraduate (1000-5000 level)

Course Components:
Lecture

Course Description:
Fundamentals of mathematical and numerical modeling techniques and their applications in solving engineering problems.

Prerequisites and Co-requisites:
Prereq: Math 2174, or 2568 (568) and 2415 (415); and enrollment as AeroEng-BS student.

Course Goals / Objectives:
- Teach students the most common numerical methods in engineering analysis
- Students to know when to use each method, and how to implement the methods using MATLAB's programming language
- Train students to apply knowledge of mathematics, science and engineering to identify, formulate and solve engineering problems

Course Topics:
- Solutions of Nonlinear Equations
- Curve Fitting and Interpolation
- Solving Systems of Linear Equations
- Numerical Integration
- Numerical Differentiation
- ODEs:Initial-Value Problems
- ODEs:Boundary-Value Problems

Designation:
Required