Numerical Methods in Aerospace Engineering

AEROENG 3581

Description / Conditions

Transcript Abbreviation:
Numerical Methods

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

Course Levels:
Undegraduate (1000-5000 level)

Designation:
Required

Course Detail

Credit Hours (Minimum if “Range” selected):
3.00

Max Credit Hours:
3.00

Check if Repeatable:
Off

Allow Multiple Enrollments in Term:
No

Course Length:
14 weeks (autumn or spring)
12 weeks (summer only)

Off Campus:
Never

Campus Location:
Columbus
Instruction Modes:
In Person (75-100% campus; 0-24% online)

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

Electronically Enforced:
No

Exclusions:
Not open to students with credit for 581, or AeroEng pre-majors.

Course Goals and Learning Objectives

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

Check if concurrence sought:
No

Contact Hours

Contact Hours:

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<tr>
<th>Topic</th>
<th>LEC</th>
<th>REC out-of-class</th>
<th>REC in-class</th>
<th>Weekly LAB in-class</th>
<th>Weekly LAB out-of-class</th>
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Grading and Texts

Numerical Methods in Aerospace Engineering - 2/3
Grading Plan:
Letter Grade

Course Components:
Lecture

Grade Roster Component:
Lecture

Credit by Exam (EM):
No

Grades Breakdown:

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<th>Aspect</th>
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<tr>
<td>Homework</td>
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<td>Midterm Examinations (2)</td>
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<td>Final</td>
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Representative Textbooks and Other Course Materials:

<table>
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<tr>
<th>Title</th>
<th>Author</th>
<th>Year</th>
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<tbody>
<tr>
<td>Numerical Methods for Engineers and Scientists: An Introduction with Applications Using MATLAB</td>
<td>Amos Gilat and Vish Subramanian</td>
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ABET Student Learning Outcomes

Embedded Literacies (UG courses only)

Embedded Literacies Info:

Attachments / Additional Notes or Comments

ABET Syllabus:
AEROENG_3581_ABET.pdf