CE280
Numerical Methods for Engineers I

Overview
This course equips students with important computing skills students will need throughout their engineering disciplines. Topics include introduction to basic engineering problems and their conceptualization through mathematical models, and introduction to algorithm development and implementation into a computer program.

Goals
Learn fundamental problem solving techniques for the following:
- Scalar/Vector/Matrix Functions
- Matrix/Array operations
- Matrix Building
- For, while, if statements
- Troubleshooting
- Plotting Functions
- Writing Scripts
- Calling Functions
- Numerical Methods II

Requirements: CE/ME 210: Matrix Algebra for engineers

Evaluation
1. Participation 5%
2. Homework assignments (5)* 25%
   * Late homework 10% for every day late (up to 3 days)
   * Plagiarism 0% and two first class tickets to the deans office
3. Quizzes (5)* 30%
4. Final 40%
* No assignments will be dropped

CE280: Expectations from you
Let me know when you are not grasping the material
Do your own independent work
Come to office hours if you have a concern or question
   I am also available via Skype
   Do not drop in my office outside of office hours
Arrive on-time to class
Turn in homework before the start of lecture when it is due

CE280: Expectations from me
Post homework the day of assignment
Post solutions at least 3 days after due date
Arrive on-time to student office hours
Arrive on-time to class

Spring Quarter, 2016
T/Th 1:10 – 4:00 pm
Instructor: Dr. Sonya Lopez
E-Mail: slope188@calstatela.edu
Office: ET A221
Office Hours:

Materials
Optional Reference Manual
MATLAB: A Practical Introduction to Programming and Problem Solving, 2nd Edition

Strongly suggested Software (~$99)
MATLAB Student & Simulink Version:
http://www.mathworks.com/academia/student_version/

Exam Dates
Quiz 1 hour each
Quiz 1, Operations & Indices— Thursday, 10/15
Quiz 2, For Statements— Thursday, 10/29
Quiz 3, While/If statements— Thursday, 11/12
Quiz 4, 2D/3D Plots— Tuesday, 11/24
Quiz 5, Output Formatting & Functions— Thursday, 12/3

Finals Week—Thursday, December 10th, 2015, 1:30 pm – 4:00 pm
Final (Cumulative + Open Notes)

Email Etiquette
MUST USE CSULA Email Address
How to set up email on mobile devices:
http://www.calstatela.edu/its/services/collaboration/office365mobile.php

Subject—Be as specific as possible
Good example:
“CE 280: Help with Hwk 3, #2: Inconclusive error”

Body of email
- Use bullets,
- Be short & clear
Good example:
- Error in input file, source not found
- Attached .m file with algorithm

Do not email a long-winded paragraph describing your problem. Keep it short and simple. Short emails = fast response
Do not email for every question one at a time. Try the assignment and email with all the bulleted questions or come to office hours.
Grading policy:
- Minor mistakes, such as a calculation error will result in a 2-point deduction for each error.
- If the errors lead to other serious mistakes, 5 to 10 points will be deducted.
- Major mistakes, 7 to 15 points will be deducted.
- No approach, or assignments not turned in will result in 0 points.
- The problems in examinations will be similar to homework problems assigned or examples given in the lectures.
- No make-up quizzes or exams unless otherwise arranged beforehand.
- Each student MUST earn a grade C- or better in order to pass the course. No grade D or below will be assigned.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics covered</th>
<th>Assignment</th>
<th>Due</th>
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<tbody>
<tr>
<td>1</td>
<td>3/28</td>
<td>Course Introduction</td>
<td>Hwk #1</td>
<td>4/12</td>
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<td>Getting Started with MATLAB</td>
<td>Typing test #1</td>
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<td>MATLAB Operations</td>
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<td>Array Indexing Part 1</td>
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<td>Array Indexing Part 2</td>
<td>Hwk #2</td>
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<td>For statements</td>
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<td>For statements</td>
<td>Group Exercises</td>
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<td>Quiz 1—Operations</td>
<td>For Statements - Group Exercises</td>
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<td>For &amp; while Loops</td>
<td>Hwk #3</td>
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<td>Plotting Functions</td>
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