MEEN 3230 – Systems, Dynamics, and Controls
Fall 2019

Course Description: Basic modeling techniques of the dynamic behavior of mechanical and electrical systems. Linear dynamics, block diagrams, feedback compensation, and computer simulations of steady-state and dynamic behavior. 3 hours.

Prerequisite(s): MATH 3410 or MATH 2700, ENGR 2302

Class Schedule: M & W 2:30 pm to 3:50 pm, Classroom: F175


Course Objectives: 1. Model mechanical and electrical systems.
2. Determine system transfer functions and develop state-space representations.
3. Analyze the time response of systems.
4. Perform stability analysis and utilize root locus techniques.
5. Perform computer simulations of control systems.

ABET Criteria: MEEN 2240 addresses the following ABET program outcomes:
An ability to identify, formulate and solve complex engineering problems by applying principles of engineering, science, and mathematics.

Instructor: Alex Hakimi
Email: alex.hakimi@unt.edu | Phone: 940-565-2400
Office & Hours: F102G, M & W 1:30 pm to 2:30 pm

Teaching Assistant: Email: | Phone:
Office & Hours:

Canvas: All lecture notes and assignments will be posted in Canvas. Each student is responsible for checking Canvas on a routine basis. At times, announcements will be posted in Canvas regarding quiz and exam dates, etc. Additionally, your grades will also be posted in Canvas. If there is a discrepancy between the grade posted and the grade earned, please let me know.

Homework: Homework will be assigned on a weekly basis. Each assignment consists of a set of problems that correspond to lecture notes and textbook material. Homework assignments will not be collected, however, there will be a quiz corresponding to each assignment.

To succeed in this course, students should complete each assignment independently and have a strong understanding of the material presented in lecture. See “Solutions Manual” section below.
Quizzes: A quiz will be given each week during class time. The quiz will consist of one or two problems similar to the assigned problems or an example presented during lecture. Only a pen/pencil and a non-programmable calculator is permitted on the desk. There are no make-ups for in-class quizzes. See “Academic Dishonesty” section below.

Exams: On exam days, seating will be randomly assigned by the instructor. All bags and smart devices must be placed at the front of the room. Only a pen/pencil and a non-programmable calculator is permitted at the desk. Make-up exams will be permitted only for situations approved by the Dean of Students. See “Academic Dishonesty” section below.

Grade Evaluation:

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<th>Grade</th>
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<tr>
<td>A</td>
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Quizzes 25%  Exam 1 25%  Exam 2 25%  Final Exam 25% Total 100%

Re-Grades: Any requests for exam and quiz re-grades must be made the day it is returned. Once class is over, re-grade requests will not be accepted. It should be noted that the entire exam or quiz will be re-graded. This may result in a score lower than previously assigned.

Academic Dishonesty: If it is determined that a student is talking during a quiz/exam, copying off of other students’ papers, sharing an equation sheet, etc., a score of zero will be given for that quiz/exam.

Use of smart devices (phones, watches, tablets, laptops, headphones, etc) is strictly prohibited during a quiz/exam. If a student is caught using any of these devices, a score of zero will be given for that quiz/exam.

If a student is suspected of violating any of the policies above, they will be reported to the Academic Integrity Office. Two violations will result in an automatic F for the course. There are no exceptions to any of the policies in this section.

Solutions Manual: It is common knowledge that solutions manuals to all widely-used textbooks are available online. Please use these resources in the correct way. Going directly to the solutions manual is not beneficial to you, in fact, it is detrimental to your grade.

To use these resources properly, you should: 1. Attempt the problem on your own. 2. Continue working on the problem if you get stuck. Utilize the textbook, lecture notes, or online material to obtain a solution. 3. Compare your solution with the solutions manual. If mistakes have been made, make sure you understand why and learn how to fix them.

Your goal in doing the practice problems is learning how to apply the material learned in class to a variety of problems. The only way to do this is to work through problems on your own.

Disability Policy: All reasonable accommodation will be made to facilitate special needs. If special accommodations are required, the student must first meet with the staff of the Office of Disability Accommodation (ODA), (940) 565-4323. After meeting with that office, please contact me to discuss what accommodations will be necessary.

For more information, see http://www.unt.edu/oda