MEEN 4800.006 – Feedback Controls of Dynamic Systems - Spring 2019

Instructor:
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Phone: 940-565-2400
Office: F102G
Office Hours: MW 1:30 PM – 2:30 PM, TR 4:00 - 5:00 PM, or by appointment

Class Schedule:
TR 1:00 - 2:20 PM, Room: NTDP B140

Required Textbooks:
Dorf & Bishop
ISBN: 978-1-118-17051-9

Calculator:
FE Exam approved calculators will be allowed for quizzes and exams.
https://ncees.org/exams/calculator/

Graphing calculators can NOT be used during quizzes and exams. Additionally, calculators cannot be shared during quizzes and exams.

Catalog Course Description:
3 hours. Introduces the fundamental principles of modeling, analysis and control of dynamic systems. Topics include: mathematical modeling of dynamic systems, including mechanical, electrical, fluid and thermal systems; Laplace transform solution of differential equations; transfer functions and system responses in time and frequency domain; control systems design; state-space based analysis and design of control systems; and computer simulation for modeling and control system design (Matlab/Simulink).

Prerequisite(s): MEEN 3230
ABET Criteria:

MEEN 3230 addresses the following ABET program outcomes:

1. Apply knowledge of mathematics, engineering and science
2. Design and conduct experiments to verify and validate the design projects they develop and analyze and interpret the data
3. Identify, formulate and solve engineering problems
4. Achieve knowledge of contemporary issues
5. Use techniques, skills and computer-based tools for conducting experiments and carrying out designs
6. Apply principles of engineering, basic science, and mathematics to model, analyze, design, and realize physical systems, components, or processes in both thermal and mechanical systems areas

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.

Assignments/Quizzes/Projects:

Assignments will be posted on a regular basis. Each assignment consists of a set of problems that correspond to the lecture material. Students are expected to complete the assignments on their own and have a good understanding of the material presented in class. See “Use of Solutions Manual” section below.

Quizzes will occasionally be given at random. Each quiz will consist of one or two problems similar to the assigned problems or an example presented during lecture. Make-up quizzes are NOT allowed.

Two or three short projects will be assigned during the semester. These projects will rely on the covered topics and design tools (for example, MATLAB) for a variety of feedback control system applications. Students are expected to report the project in a formal manner.

Canvas:

All 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 test dates, quizzes, 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.
Exams:
Exam 1 – TBD
Exam 2 – TBD
Final – Thursday, May 9th (10:30 AM – 12:30PM)

Grade Evaluation:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework/Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Projects</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 1</td>
<td>25%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam (comprehensive)</td>
<td>25%</td>
</tr>
</tbody>
</table>

A – 90-100%  B – 80-89%  C – 70-79%  D – 60-69%  F - < 60%

There will be NO curve on the final grade. For example, 90% must be obtained in order to get an A; an 89.8 will be a B. Grades are based solely on your performance on the quizzes and exams. A student’s perceived effort is not taken into account.

It should be noted that extra credit will not be given at the end of the semester for individual students. Please do not request extra work at the end of the semester to boost your grade – the answer will always be no. It would be unfair to the rest of the students in the class if select individuals were given a chance to earn more points. Quizzes and exams are made to be fair and allow everyone the opportunity to do well in the course if a student prepares for them appropriately.

Re-grades:

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

Academic Dishonesty/Cell Phone Policy:

Cell phone use will not be allowed during quizzes and exams. If a student is caught using a cell phone during a quiz or exam, a score of zero will be given for that assignment. There are no exceptions to this rule.

Students are expected to do their own work on quizzes and exams. If it is determined that a student is talking during an exam, copying off of other students’ papers, sharing an equation sheet, etc, a score of zero will be given for that assignment. There are no exceptions to this rule.
Use of Solutions Manuals/online resources like Chegg

It is common knowledge that solutions manuals to all widely-used textbooks are available online. I realize that students like to utilize these resources but please use them 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 attempt all problems on your own. If you get stuck, work on it some more. You should only go to the provided solutions once you have obtained a solution. You can then check your work and find your mistakes. Once you have found the mistakes, you should figure out why you made those errors and then learn how to fix them. Your goal in doing the practice problems is to learn 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.

Attendance

Attendance is not mandatory. However, there is a positive correlation between attendance and performance in the class. Students that come to every class and participate by taking notes, asking questions, etc. typically outperform students who regularly miss classes and those that attend class but do not participate. Lecture notes will not be put on Canvas. If you miss a class, it is your responsibility to get the notes from another student.