



Department of Electrical Engineering

EENG 5320/EENG 4010

Systems Modeling and Simulation

Spring 2022

Tu,Th: 14:30-15:50 pm, NTDP B227

Course Description

This course aims to systematically introduce concepts and analytical tools required to abstract engineering problems from real-world applications, and to simulate and analyze such problems. Main topics include the modeling of dynamical systems using ordinary differential equations, state-space representations, input-output equations and transfer functions, the analysis of system response, and a brief introduction to control systems including PID controllers design.

Instructor

Yusheng Wei, Email: Yusheng.Wei@unt.edu

Office Hours: Tu 15:50-17:50 pm

Office: NTDP B261

Grader

Naga Anusha, Ayyalasomayajula

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Textbook

No required textbook. Lecture notes and homework are available on Canvas

Recommended Reference:

Craig A. Kluver, Dynamic systems: Modeling, Simulation, and Control, 2015

Grading

Homework 20%

Mid-Term Exam I 25%

Mid-Term Exam II 25%

Final Exam 30%

Homework Policies

1. Homework is due before class begins. Due dates are posted on Canvas once homework is assigned. Please submit homework through Canvas. Either word files, PDF files or scanning of hand-written solutions are acceptable. Please make sure that homework submissions are clear to read. Homework will NOT be accepted late (except if a formal letter is provided regarding a medical or family emergency).
2. Students are encouraged to discuss class material and homework in order to better understand concepts. However, all the work you submit must be of your own. Direct copying of a solution (from friends or books or websites) will be considered as plagiarism and a violation of the University Honor Code.

Other Policies

1. Any cheating will result in a failing grade for this course, and will be reported to the department for appropriate action. In this course, the exams are individual assignments, and any collaboration will be considered cheating. Collaborative effort on homework is acceptable, but you MUST acknowledge your collaborators in the homework, and the written text of the homework must be your own. Similarly, other reference texts that you use on homework must be cited.
2. Make-up exams will not be given except in extenuating circumstances.
3. If you arrive late, please enter quietly and sit down. Do not walk in front of speakers or disrupt the class in any other way.
4. Please remember to turn off phones prior to class.
5. The University of North Texas complies with Section 504 of the 1973 Rehabilitation Act and with the Americans with Disabilities Act of 1990. The University of North Texas provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. It is the responsibility of the student to provide the instructor with appropriate documentation from the Dean of Students Office (see <http://www.unt.edu/oda>) during the first week of class.
6. Please visit <http://www.unt.edu/csrr/> for your rights and responsibilities.