Math 3331, Ordinary Differential Equations. Sanders, Fall 2022

Prerequisite: Math 2331 and Math 2433. No Matlab.

Text: My homework notes will be self contained.
I’ll be glad to suggest supplemental reading material.

Exams: Two midterm exams ($2 \times 30\%$) and a cumulative final exam (40%).

Topics: 1: Introduction
2: First-Order Equations
3: Modeling and Applications
4: Second-Order Equations
5: Existence and Uniqueness
6: Matrix Algebra
8: An Introduction to Systems
9: Linear Systems with Constant Coefficients
10: Nonlinear Systems (if time permits)

Homework and additional notes will be posted on my web page:
https://www.math.uh.edu/~sanders.

I will not give makeup (early or late) exams. The final is cumulative and is mandatory. If a single midterm exam is missed, a virtual score is computed for the missed exam based on your final exam score and the statistics of the final and missed midterm.

Your course grade will be based solely on your two midterms and final; ($2 \times 30\%), (1 \times 40\%).$

I guarantee a total average of 90% will at least earn a class grade of $A-$, 80% a $B-$, etc. Depending on the class however, I will likely curve down some target letter grades.

I will not give incompletes at any time, not before nor after the university drop date.

Lectures and exams will be given in the face-to-face teaching style. Your final exam will be given on the date/time specified by the university’s final exam schedule. The final is mandatory and its date/time will not be moved for any reason.

If in the future it proves necessary to change the teaching style, you will be notified in class (if possible) or on my web page or by email.
Special COVID-19 related items.

Face Covering Policy
To reduce the spread of COVID-19, the University strongly encourages everyone (vaccinated or not) to wear face coverings indoors on campus including classrooms for both faculty and students.

Presence in Class
Your presence in class each session means that you:

- Are NOT exhibiting any Coronavirus Symptoms (1) that makes you think that you may have COVID-19.
- Have NOT tested positive or been diagnosed for COVID-19.
- Have NOT knowingly been exposed to someone with or suspected to have COVID-19.

If you are experiencing any COVID-19 symptoms that are not clearly related to a pre-existing medical condition, do not come to class. Please see Student Protocols (2) for what to do if you experience symptoms and Potential Exposure to Coronavirus (3) for what to do if you have potentially been exposed to COVID-19. Consult the Undergraduate Excused Absence Policy (4) for information regarding excused absences due to medical reasons.

COVID-19 Information
Students are encouraged to visit the University’s COVID-19 website (5) for important information including on-campus testing, vaccines, diagnosis and symptom protocols, campus cleaning and safety practices, report forms, and positive cases on campus. Please check the website throughout the semester for updates.

Vaccinations
Data suggests that vaccination remains the best intervention for reliable protection against COVID-19. Students are asked to familiarize themselves with pertinent vaccine information (6), consult with their health care provider. The University strongly encourages all students, faculty and staff to be vaccinated.

(1) https://www.uh.edu/covid-19/information/coronavirus-symptoms/
(2) https://www.uh.edu/covid-19/guidelines-protocols/diagnosis-symptoms/#students
(3) https://www.uh.edu/covid-19/guidelines-protocols/potential-exposure/
(4) http://catalog.uh.edu/content.php?catoid=36&navoid=13956
(5) https://www.uh.edu/covid-19/information-for/students/
(6) https://www.uh.edu/covid-19/information/vaccine/
Reasonable Academic Adjustments/Auxiliary Aids

The University of Houston complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for disabled students. In accordance with Section 504 and ADA guidelines, UH strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. If you believe that you have a disability requiring an academic adjustments/auxiliary aid, please contact the Justin Dart Jr. Student Accessibility Center (7) (formerly the Justin Dart, Jr. Center for Students with Disabilities).

Excused Absence Policy

Regular class attendance, participation, and engagement in coursework are important contributors to student success. Absences may be excused as provided in the University of Houston Undergraduate Excused Absence Policy (8) for reasons including: medical illness of student or close relative, death of a close family member, legal or government proceeding that a student is obligated to attend, recognized professional and educational activities where the student is presenting, and University-sponsored activity or athletic competition. Under these policies, students with excused absences will be provided with an opportunity to make up any quiz, exam or other work that contributes to the course grade or a satisfactory alternative. Please read the full policy for details regarding reasons for excused absences, the approval process, and extended absences. Additional policies address absences related to military service (9), religious holy days (10), pregnancy and related conditions (11), and disability (12).

Recording of Class

Students may not record all or part of class, livestream all or part of class, or make and/or distribute screen captures, without advanced written consent by me. If you have or think you may have a disability such that you need to record class-related activities, please contact the Justin Dart, Jr. Student Accessibility Center. If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Failure

(7) https://uh.edu/accessibility/
(8) http://catalog.uh.edu/content.php?catoid=36&navoid=13956
(9) http://publications.uh.edu/content.php?catoid=34&navoid=12714
(10) http://publications.uh.edu/content.php?catoid=34&navoid=12495
(11) https://uhsystem.edu/compliance-ethics/_docs/sam/01/1d7.pdf
(12) https://uhsystem.edu/compliance-ethics/_docs/sam/01/1d9.pdf
to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.

UH Email
Please check and use your Cougarnet email for communications related to this course. To access this email, login to your Microsoft 365 account with your Cougarnet credentials.

Syllabus Changes
Due to the changing nature of the COVID-19 pandemic, please note that I may need to make modifications to the course syllabus and may do so at any time. Notice of such changes will be announced as quickly as possible in the class lecture (if possible) or on my web page or if necessary via email.