

MATH 3331, DIFFERENTIAL EQUATIONS, FALL 2020 – SECTION 14402

Dr. Vaughn Climenhaga

Email: climinha@math.uh.edu

Website: www.math.uh.edu/~climinha/math3331.html, Blackboard, and Microsoft Teams

Note from Dr. Climenhaga: The items below marked as “Official university syllabus item” are taken verbatim from University of Houston syllabus language guidance regarding required and recommended syllabus language. This guidance was sent out after I put together the initial syllabus, and there is some duplication between my original syllabus items and the official university items. I believe them to be consistent with each other, but if there is any disagreement, the official university items take precedence over mine.

Syllabus Changes. (Official university syllabus item.)

Due to the changing nature of the COVID-19 pandemic, please note that the instructor 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 through Blackboard and email.

Prerequisites: Math 2331 (Linear Algebra) and 2433 (Calculus 3).

Textbook: “Differential Equations”, by J. Polking, A. Boggess, and D. Arnold, second edition.

Course Description: We will study ordinary differential equations (ODEs) as tools for mathematical modeling, including solution techniques for first- and second-order equations and initial value problems; Laplace transforms; numerical methods; systems of ODEs; solution techniques for linear systems; and (time permitting) nonlinear systems including qualitative analysis and bifurcation theory. The course will involve some MATLAB use.

Grading: Your final grade will be based on the following components.

- Homework: 40% (due weekly as announced on Blackboard)
- Midterm exam: 30% (date will be announced on Blackboard)
- Final exam: 30% (date will be announced on Blackboard)

What you will need: A computer and internet connection meeting the requirements at <https://uh.edu/online/tech/requirements/> as well as the following; see below for more details.

- Blackboard (for homework, discussion forum, gradebook, and important links).
 - Sign in via <https://accessuh.uh.edu/login.php>
- Microsoft Teams (for office hours and any other video chat).
 - Download app; there is a possibility to join video calls in a browser, but it is strongly recommended that you download the app itself.
- MATLAB or MATLAB Online (for occasional use on homework assignments).
 - Create Mathworks account and download or use in browser.
- A way to capture your homework assignments and exams **as a pdf file**.
- A microphone and webcam for online virtual proctored exams.

MATLAB. Although MATLAB use is not a core part of this course, I will use MATLAB from time to time to illustrate examples in the video lectures, and I will also expect you to use it occasionally on homework assignments. See the Blackboard page for information about how to access MATLAB and basic instructions on its use. You may find the tutorials at <https://matlabacademy.mathworks.com/> useful, especially “MATLAB Onramp” and “Solving Ordinary Differential Equations with MATLAB”, but I do not require that you complete these.

Lectures and office hours:

- *Lectures:* There will be no live lectures in this course; all lectures will be pre-recorded. Links to lecture videos will be posted in Blackboard; the videos themselves will be on Microsoft Stream, which may require you to log in using your CougarNet credentials.
- *Office hours:* I will have online office hours through Microsoft Teams. The timing of these may vary through the semester; see the Blackboard page for the current schedule and a link to join the office hours. Following that link will take you to a Teams “meeting” open to anyone in this course or in my graduate topology course. If you have something to discuss privately with me, use Teams to place a video call (using the ”Calls” button at the left-hand side of Teams) during my office hours. Please note that I may not respond immediately if I am currently talking with another student in the office hours meeting, but will respond as soon as I am able. I will not answer video calls outside of my office hours.
- *Discussion forums:* The Blackboard page for the class has discussion forums where you can ask questions about logistics of the course, details from the video lectures, or the homework assignments. Anything you post here will be visible to all students in the class. You are encouraged to use the homework forum to discuss the homework assignments with each other and to arrange virtual study sessions (through Teams).

Webcams. (Official university syllabus item.)

Access to a webcam is required for students participating remotely in this course. Webcams must be turned on during exams to ensure the academic integrity of exam administration.

Resources for Online Learning. (Official university syllabus item.)

The University of Houston is committed to student success, and provides information to optimize the online learning experience through our Power-On website. Please visit this website for a comprehensive set of resources, tools, and tips including: obtaining access to the internet, AccessUH, and Blackboard; requesting a laptop through the Laptop Loaner Program; using your smartphone as a webcam; and downloading Microsoft Office 365 at no cost. For questions or assistance contact UHOnline@uh.edu.

Asynchronous Online Courses. (Official university syllabus item.)

This course is taught Asynchronously, which means there is no designated day or time assigned to the course (although optional synchronous sessions are possible, such as virtual office hours or discussion groups). Asynchronous instruction generally involves accessing content, such as recorded video lectures, readings, discussion prompts, assignments, and assessments during a flexible time frame, with due dates as specified. This course will have a final exam at the course conclusion. The exam will be asynchronous, and the date and time that it will be released and due will be announced during the course. Prior to the exam, descriptive information, such as the number and types of exam questions, resources and collaborations that are allowed and disallowed in the process of completing the exam, and procedures to follow if connectivity or other resource obstacles are encountered during the exam period, may be provided.

Recording of Class. (Official university syllabus item.)

Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the Center for Students with DisABILITIES. 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. Classes may be recorded by the instructor. Students may use instructor’s recordings for their own studying and notetaking. Instructor’s recordings are not authorized to be shared with anyone without the prior written approval of the instructor.

Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.

Interim Undergraduate Grading Policy. (Official university syllabus item.)

Due to the unique and unprecedented challenges associated with the COVID-19 pandemic, the University of Houston has implemented an Interim Undergraduate Grade Policy for undergraduate grades which applies to all undergraduate students in courses offered in all sessions during fall 2020. Under this policy, students have the option of converting final assigned letter grades to S (Satisfactory, applicable to any letter grade from A to D-) or NCR (No Credit Reported COVID-19, applicable to grades of F) on their transcripts. Please visit FAQs for additional information.

Note from Dr. Climenhaga: If you have questions about the impact of your choice, you are encouraged to contact your academic advisor, who is better positioned than me to offer you advice.

Drop/withdraw deadlines: The current version of the university's academic calendar at <http://www.uh.edu/academic-calendar-undergraduate> lists the following deadlines.

- Wednesday, September 9: Last day to drop a course or withdraw without receiving a grade
- Tuesday, November 3: Last day to drop a course or withdraw with a "W".

Participation and homework: You are expected to view every video lecture, and are strongly encouraged to ask questions via the discussion forum in Blackboard or during online office hours about anything I say in the lectures that is not clear to you. I may cover some material in lectures that does not appear in the textbook, and the tests and exams will draw on all material covered in lectures and homework. Homework assignments will be due as announced on Blackboard; you will submit your assignment by uploading a file to Blackboard, **which must be in pdf format.**

- *Other file formats will not be accepted.*
- *Late homeworks will not be accepted.**

Tests and exams: For online tests you will need to use a "virtual proctoring system" such as Respondus Lockdown Browser or CASA Monitor; details will be announced on Blackboard. (At this time I am still waiting for further guidance from the department before finalizing the details.)

All tests must be completed by the announced deadline.*

Exceptions to these deadline policies may be made per the Student Academic Adjustments/Auxiliary Aids Policy for students with approved CSD accommodations, as well as for students with an official excused absence as recognized by University of Houston in accordance with federal and state law and described at <https://uh.edu/provost/policies-resources/student/excused-absence-policy/> – to seek such an exception you must contact me promptly, notify me of the situation, and provide me with documentation. This must be done **before the due date or test/exam date unless the exception is for an unforeseeable emergency. Even if we discuss the matter verbally, I will also ask you to send me information and documentation by email, in order to keep a written record.*

Excused Absence Policy. (Official university syllabus item.)

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 and Graduate Excused Absence Policy 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. Additional policies address absences related to military service, religious holy days, pregnancy and related conditions, and disability.

Religious Holy Days. (Official university syllabus item.)

Students whose religious beliefs prohibit class attendance or the completion of specific assignments on designated dates may obtain an excused absence. To do so, please make a written request for an excused absence and submit it to your instructor as soon as possible, to allow the instructor to make arrangements. For more information, see the Student Handbook. <http://catalog.uh.edu/index.php>

Announcements and email communications: All course announcements will be made on the Blackboard site, which you are expected to check regularly. Some announcements may also be posted on Teams or sent via email (using the email address recorded in the official class list, which is typically a “@uh.edu” address), but the “Information” page of the Blackboard site will be the official location for all announcements, and you are responsible for being aware of anything that is posted here. Please also note that you are responsible for the content in emails sent to your UH account, regardless if your external (non-UH) email provider filters or blocks them. Emails lost to external providers shall not be used as a justification to claim faculty are unresponsive, to appeal grades, etc. See <http://www.uh.edu/infotech/services/accounts/email/student-email/index.php> for further information about your UH email account.

If you need to contact me with a question or concern, you are always welcome to speak to me during my online office hours, or to email me using the address listed at the top of the syllabus to arrange a private discussion. If you email me and do not receive a response within one working day, please resend the email. If you again do not hear from me within one more working day, it is likely that your email is not coming through and you should alert me to the problem in the online office hour or by sending me a message in Blackboard/Teams. It is your responsibility to ensure that I am aware of issues you may have with the course; failure to effectively initiate timely communication is not a valid basis for a grade grievance and cannot be used as such.

UH Email. (Official university syllabus item.)

Email communications related to this course will be sent to your Exchange email account which each University of Houston student receives. The Exchange mail server can be accessed via Outlook, which provides a single location for organizing and managing day-to-day information, from email and calendars to contacts and task lists. Exchange email accounts can be accessed by logging into Office 365 with your CougarNet credentials or through Access UH. They can also be configured on IOS and Android mobile devices. Additional assistance can be found at the Get Help page.

Other policies: All coursework (assignments, exams, etc.) will be graded within 10 days of when it is submitted; you will receive your grades and any feedback via Blackboard. Any requests for reconsideration of grades on individual pieces of coursework must be made within 15 days of when grades are posted on Blackboard.

If you do not turn in homeworks or take exams, do not drop the class, and your name appears on the final class roll but I have not received any communication from you concerning your inability to participate in the class, you will receive a grade of F at the end of the semester. Thus **if for any reason you are unable to participate fully in this online course, it is vital that you contact me as soon as you experience difficulties.**

Academic honesty and dishonesty: You are expected to follow the Academic Honesty Policy in the Student Handbook; see <https://uh.edu/provost/policies-resources/honesty/>. In particular, the following are expected in this course.

- You are permitted and encouraged to work collaboratively with your classmates on homework assignments to discover and understand solutions – working together and teaching each other is one of the best ways to fully learn the material. However, the final write-up of the solutions must be in your own words.

- Academic dishonesty on exams includes but is not limited to copying work and using prohibited materials such as notes, calculators, or cell phones. Cheating on tests or exams may result in disciplinary action both in this course and at the department and college levels.
- Exams will be given online using a virtual proctoring service; you will also be asked to sign an academic honesty statement.

Honor Code Statement. (Official university syllabus item)

Students may be asked to sign an honor code statement as part of their submission of any graded work including but not limited to projects, quizzes, and exams: *“I understand and agree to abide by the provisions in the University of Houston Undergraduate Academic Honesty Policy. I understand that academic honesty is taken very seriously and, in the cases of violations, penalties may include suspension or expulsion from the University of Houston.”*

Special needs: Whenever possible, and in accordance with 504/ADA guidelines, the University of Houston will attempt to provide reasonable academic accommodations to students who request and require them. Please call the Center for Students with DisAbilities (CSD) at 713-743-5400 for more assistance. Do not hesitate to contact me to discuss such concerns/needs.

Counseling and Psychological Services (CAPS). (Official university syllabus item)

CAPS can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. Also, there is no appointment necessary for the “Let’s Talk” program, which is a drop-in consultation service at convenient locations and hours around campus.

(Note: CAPS also has a dedicated website for COVID-19 resources at <https://uh.edu/caps/resources/covid-19/>)

Helpful Information. (Official university syllabus item)

- COVID-19 Updates: <https://uh.edu/covid-19/>
- Coogs Care: <https://www.uh.edu/dsaes/coogscare/>
- Laptop Checkout Requests:
<https://www.uh.edu/infotech/about/planning/off-campus/index.php#do-you-need-a-laptop>
- Health FAQs: <https://uh.edu/covid-19/faq/health-wellness-prevention-faqs/>
- Student Health Center:
<https://uh.edu/class/english/lcc/current-students/student-health-center/index.php>