Math 2413: Calculus I
Course Syllabus – Fall 2021

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Office Hours: TBD (all online through MS Teams)
Course number: MATH 2413
Section number: 12270 or 19750
Delivery format: Face-to-face
Prerequisites: Credit for MATH 2312 or a satisfactory passing score on a placement exam.

IMPORTANT: *The instructor reserves the right to make changes on these policies. Any changes will be announced on CASA or in class in a timely manner. Students are expected to be aware of any additional course policies presented by the instructor during the course.*

What is this class all about? (Course Description)

First off, welcome to Calculus! This subject is all about *change*, and since so many phenomena studied in other fields involve things that change, the language and tools developed in our course are bound to help you succeed there, too. This class is also an excellent introduction to Mathematics in general, providing students with opportunities to learn how mathematicians think about the world around them as well as worlds beyond all of us.

Upon successful completion of this course, you will:

- Understand and apply tools to solve various problems about
  - Instantaneous rates of change
  - Properties of curves
  - Areas of regions bounded by curves
  - Motions of accelerated bodies
- Develop proficiency in calculation-based skills such as
  - Differentiating various combinations of functions
  - Integrating / anti-differentiating elementary functions
- Understand and apply key theorems such as
  - The Intermediate Value Theorem
  - The Mean Value Theorem
  - The Sandwich/Squeeze/Pinching Theorem
  - The Fundamental Theorem(s) of Calculus
- Develop the ability to use graphical information and symbolic expressions when solving mathematical problems

- Develop and practice successful problem-solving strategies that include
    - Translating questions written in ordinary, natural languages into mathematical expressions
    - Deriving solutions via rigorous mathematical methods
    - Interpreting and explaining your results

Note (TCCNS Course Code): If you see any reference to "Math 1431" in your textbook, your instructor's notes, website or any other course materials, note that Math 1431 is the previous code for Calculus 1 and we will be using the code "Math 2413" starting Fall 2021.

What work will I be turning in for this course? (Major Assessments)

In this course, you will complete four exams, one final, online quizzes (2 or 3 a week), weekly homework and "poppers" (lecture pop quizzes). Here is how these components will contribute to your final course grade.

Assessments and Percentage Points

Prerequisite Test (online): 3%
Tests 2, 3, 4:16% each
Final Exam: 25%
Quizzes (online): 13%
Homework: 11%

Grading Scale: If "x" is your average, letter grades will be assigned as follows:

A	$93 \leq x$	B-	$80 \leq x < 83$	D+	$67 \leq x < 70$
A-	$90 \leq x < 93$	C+	$77 \leq x < 80$	D	$63 \leq x < 67$
B+	$87 \leq x < 90$	C	$73 \leq x < 77$	D-	$60 \leq x < 63$
B	$83 \leq x < 87$	C-	$70 \leq x < 73$	F	below 60

Course Policy Quiz

The course policy quiz can be found on CASA under "online assignments" tab. Students need to make 100% on this quiz in order to have access to other online assignments (quizzes, tests, etc.). Read the syllabus before taking this quiz.

Online Quizzes

Online quizzes will be given regularly in this course.

- Students need to score 100 on the Course Policy Quiz in order to see the other online assignments.
- The quizzes are located in the CASA CourseWare course website under the "Online Assignments" tab.
- The quizzes will close on the due dates given on CourseWare at 11:59 pm and will not re-open. If the quiz is still open when the time expires, your work will not be saved; you must **submit** any online assignment before 11:59pm.
- **Two lowest** quiz scores will be dropped. The primary reason for this policy is to offset the impact of zero/low quiz scores due to emergencies on a student's final course grade.
- You have **10 times** to take each quiz.
- There is a 60 minute time limit for most quizzes.
- There may be 2 or more quizzes due every week; check the due dates carefully.

Once a quiz closes, then it is over for the semester. Neither I, nor the Department of Mathematics, is responsible for any difficulty that you have in accessing the quizzes. Please do not delay taking quizzes – there are times during the week when CourseWare is slow or overloaded. There is no amnesty period for the quizzes; the quizzes will NOT be reopened at the end of the semester.

Please contact CourseWare tech support directly if you are having technical problems with your account or an assignment. The email link is on the CASA homepage.

Homework

- There are weekly homework assignments. The homework problems and due dates will be posted on CASA. Some weeks, there might be more than one assignment.
- You will submit your answers using "EMCF" or "Assignments" tab at CASA before the due date. Check your CASA class page for detailed instructions.
- One of the lowest homework assignment scores will be dropped. The primary reason for this policy is to offset the impact of zero/low HW scores due to emergencies on a student's final course grade.
- Your initial score on the multiple-choice homework is the number of correct answers out of the total number of questions and will be converted to be out of 100 in about a week after grading.
- Students are expected to check the calendar on CASA often (to see the due dates for HW and quizzes) and to plan ahead and work on the assignments in a timely manner.

Poppers

Starting the 3rd week of classes, your instructor might assign poppers (attendance questions) during lectures.

Poppers will be turned in under EMCF tab at CASA.

Students will need a device with internet connection (laptop, smart phone, etc.) so that they can turn in poppers during the lecture. If you do not have a device to turn in poppers, see: **Laptop Checkout Requests**: https://www.uh.edu/infotech/about/planning/off-campus/index.php#do-you-need-a-laptop

Instructors will explain how the poppers will work in class. They might lock questions as they proceed, last question(s) being due by the end of the lecture. Students who come in late may not be able to turn in questions given earlier in the lecture.

15% of poppers will be dropped to cover for emergencies or unexpected events. For a class that meets 3 times a week, this corresponds to approximately 6 lectures; for a class that meets twice a week, this corresponds to approximately 4 lectures. If you face an absence that exceeds the dropped amount (more than 6 lectures for a MWF class, or more than 4 lectures in a MW or TTh class) and it might be considered an excused absence, read the excused absence policy and contact your instructor.

Sharing answers to popper questions (online, or at group chats, or at any other source) is considered an academic honesty policy violation. Please read the information regarding Academic Honesty below and do not share answers to poppers with your friends. Not only this is cheating; this also prevents other students from learning the material and hence such violations are taken very seriously.

Tests

There will be 4 tests along with a mandatory final exam.

- Test 1 is an online test covering pre-requisites (algebra and precalculus) - see below for more information.
- Tests 2, 3, 4 and final exam will be taken at CASA Testing Center by reservation.
- Tests will be taken with reservation; **you must make a reservation to take a test prior to the first testing day.** Follow the instructions on CASA to reserve a time for your tests; print out the webpage showing your reservation time for your records and proof of your reservation. Reservations are made on a first come first served basis; schedule your exams as soon as the scheduler opens up.

- If you miss your reserved time, log in to your account to see if there are any other time slots available and if so, make a new reservation.
- You have 1 attempt on all tests.
- You can NOT use calculators during any of the exams; study accordingly.

Test 1 is over the pre-requisite material (algebra and precalculus). Test 1 can be found under Online Assignments tab at CASA. You have 1 attempt on it.
You can review basic algebra topics to prepare for this test. You can find help videos for these topics on the course website (or here:
https://online.math.uh.edu/courses/placement/Modules.html)

IMPORTANT: If you score low on Test 1 (below 60 without extra credit); you may consider dropping this course and taking the prerequisite course to prepare yourself for this course. If you decide not to drop, it is strongly recommended that you sign up for an SEP workshop designed for Math 2413 students; you can add a workshop in your PS account before the last day to add.

Exam topics: *(Any changes on the exam topics or dates will be announced on the course website or in the CASA calendar)*

Test 1	Prerequisite Material	August 24-31
Test 2	Chapters 1 and 2	October 1, 2, 4
Test 3	Chapter 3	October 22, 23, 25
Test 4	Chapters 4 and 5	November 19, 20, 22
Final	Comprehensive (covers all chapters)	December 13, 14, 15

Final Exam

Final is comprehensive and mandatory for **ALL** students. **There is no "exemption" or "opt-out" from the final.** Reserve a seat for it when reservation begins. Reservations are made online at CASA on a first come first serve basis. **Make your travel plans so that you are available during the testing period**.

Your raw score on the final will be used to replace the lowest test score if it is better. The primary reason for this policy is to offset the impact of zero scores due to emergencies (medical, personal, or otherwise) on a student's final course grade.

Grade Appeals

Grade appeals on any assignments should be made within five business days of the posting of the assignment grade.

Extra Credit

There are practice tests and a practice final on Courseware. If you take the practice test, then 5% of the highest score you earn will be applied to the relevant test as extra credit on the corresponding exam. You can take the practice tests several times (up to 10 times) and we only take your best score. Pay attention to the "end" dates on these. In general, practice tests end the night before the exam starts. Practice tests will not be reopened for any reason; make sure you take them on time.

Late Assignments and Make-up Policy

This course is a cumulative course. You as a student need to keep up with the reading, quizzes, homework assignments and exams. Students are expected to check the calendar on CASA several times a week and plan ahead so that they do not miss assignments. We drop some assignments primarily to offset the impact of zero/low scores due to emergencies on a student's final course grade. Hence, students should not expect to have an option to make up missed assignments unless in the case of an excused absence (See: Excused absence policy below).

If you miss a test, it may be possible to reschedule a test appointment during the testing period (depending on space availability) by using the online scheduler. Rescheduling must be made online in your account; your instructor is not responsible for finding seats or making reservations for you. Your final exam score will replace your lowest midterm exam score if the former is higher. A missed test will result in a score of zero. If you miss two or more exams, only one of those scores will be replaced. The primary reason for this policy is to offset the impact of zero/low test scores due to emergencies on a student's final course grade.

If requesting make up work (assignment or test) due to an excused absence: the student needs to contact the instructor in writing before the next class meeting (or as soon as possible afterwards with an explanation regarding why the notice could not be sent before the next class meeting). Read the Undergraduate Excused Absence Policy to see a list of documentations to support your request; follow the guidelines provided on this document to make your request. Your instructor will inform you of the decision in writing (via email).

Note: If students lose access to CASA temporarily due to not entering access code by the deadline, or being temporarily dropped from the course for non-payment, then they are responsible for any assignment deadlines that are missed.

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** 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: 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**

How does this class work? (Course Structure and Delivery Format)

This course features a corresponding recitation that does not have a separate grade. Regular class time (or "lecture") comprises three hours a week and lab time ("recitation") is also three hours. Graduate teaching assistants conduct these lab sessions, and they are designed to provide you the opportunity to work on practice problems and collaborate with other students in a smaller, student-focused setting.

Course Delivery Format

This course is being offered in the face-to-face format. This course is not self-paced. Students are expected to follow assignment due dates as specified on CASA calendar. **Live meetings** (lectures and labs) for this course will take place according to the class schedule. This is a face-to-face class and by signing up for this class, students agree that they are available during the lecture and lab meeting times.

Due to the changing nature of the pandemic, a team for this class will be created and available on MS TEAMS. In case of a need to move to the online setting, all students will be added the team as members.

- Make sure you are a member of the team: *to be announced when needed*
- If we move to the online setting: Students are expected to behave professionally during live meetings. Any students who do not follow the university's code of conduct might be removed from the meeting. Turn off your webcam and microphone before joining the meeting. By joining a live meeting, students give consent to be recorded on the live meeting video.

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 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 COVID-19 or suspected/presumed 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 for what to do if you experience symptoms and Potential Exposure to Coronavirus for what to do if you have potentially been exposed to COVID-19. Consult the Undergraduate Excused Absence Policy for information regarding excused absences due to medical reasons.

COVID-19 Information

Students are encouraged to visit the University's COVID-19 website 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, consult with their health care provider. The University strongly encourages all students, faculty and staff to be vaccinated.

Technology Requirements

Computer, web camera, and internet access is required for this course.
In summary, students will need:

- a functioning and updated computer (with microphone, speaker or earphones, and webcam)

- reliable internet connection
- PDF viewer
- Ability to log in to CASA for online assignments.
- Ability to watch mp4 files.
- Ability to access Microsoft TEAMS platform. Note that all UH students have access to MS teams with their cougarnet ID.

Resources for Online Learning

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; 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**.

Another key resource that will be used for this course is CASA/ CourseWare.

CASA CourseWare

The textbook, online quizzes, homework, grade book, and any additional help materials will be made available at **CASA/CourseWare** (http://www.casa.uh.edu). Students have free access to CASA and all the materials posted there for the first two weeks of class. **Students are required to purchase an access code to access the learning materials by the due date announced on CASA. Access code can be purchased at UH Book Store. If you do not enter the code by the deadline stated on CASA, you will lose access to CASA temporarily – until you enter the code.**

If students miss assignments during the no access period, they should not expect to have make up options for those assignments.

The materials provided by the instructor in this course are for the use of the students enrolled in the course only. Copyrighted course materials may not be further disseminated without instructor permission. This includes sharing content to commercial course material suppliers such as Course Hero or Chegg. Students are also prohibited from sharing materials derived from the instructor's content (e.g., a student's lecture notes).

Recording of Class

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 **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. 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.

Syllabus changes

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 on CASA or in class.

Communication via Email

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 Acccess UH. They can also be configured on **IOS** and **Android** mobile devices. Additional assistance can be found at the **Get Help** page.

Per UH Policy, notices properly addressed and so sent (for example, via PeopleSoft) shall be presumed to have been received by the student. Thus, 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.

When emailing your instructor, it is recommended that you use a professional email address and include the course name on the subject line so that your instructor can address your questions accordingly. Please read this link for more on communication via email: **EMAIL ETIQUETTE** (**https://www.math.uh.edu/~tomforde/Email-Etiquette.html**).

IMPORTANT: Note that your instructor will communicate with you via email. Your instructor will not reply to chat messages via MS TEAMS outside of class times. Calls from MS TEAMS

will not be responded to unless they are made by appointment. If you leave a voice mail at your instructor's office phone, he/she might not receive it. The best way of communication with your instructor outside of class times is via email.

Office Hours: Office hours will be held virtually via MS Teams beginning the second week of the semester. Please check your CASA class page for more information.

If you need to speak with your instructor privately, email your instructor to arrange a virtual meeting with your instructor.

Academic Honesty Policy

University of Houston students are expected to adhere to the Academic Honesty Policy as described in the UH Undergraduate Catalog. "Academic dishonesty" means employing a method or technique or engaging in conduct in an academic endeavor that contravenes the standards of ethical integrity expected at the University of Houston or by a course instructor to fulfill any and all academic requirements. Academic dishonesty includes, but is not limited to, the following: *Plagiarism; Cheating and Unauthorized Group Work; Fabrication, Falsification, and Misrepresentation*; *Stealing and Abuse of Academic Materials; Complicity in Academic Dishonesty; Academic Misconduct.* Refer to **UH Academic Honesty website** and the UH Student Catalog for the definition of these terms and university's policy on Academic Dishonesty. Anyone caught cheating will be reported to the department for further disciplinary actions, receive sanctions as explained on these documents, and will have an academic dishonesty record at the Provosts office. The sanctions for confirmed violations of this policy shall be commensurate with the nature of the offense and with the record of the student regarding any previous infractions. Sanctions may include, but are not limited to: a lowered grade, failure on the examination or assignment in question, failure in the course, probation, suspension, or expulsion from the University of Houston, or a combination of these. Students may not receive a W for courses in which they have been found in violation of the Academic Honesty Policy. If a W is received prior to a finding of policy violation, the student will become liable for the Academic Honesty penalty, including F grades.

Posting answers for Poppers or Homework questions online (at group chats or other online tools) is considered an academic honesty violation. Students are expected to know the difference between "getting/giving HELP on a problem" and "getting/giving answers to a problem". If a student is caught sharing answers (in person or online), he/she might be reported to the departmental hearing officer for an academic honesty violation. If a student becomes aware of cheating or any other violations, that student is responsible for informing the instructor.

UH CAPS

Counseling and Psychological Services (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. No appointment is necessary for the "Let's Talk" program, a drop-in consultation service at convenient locations and hours around campus. **https://uh.edu/caps/outreach/lets-talk/**

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 (formerly the Justin Dart, Jr. Center for Students with DisABILITIES).

Helpful Information

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**

Student Health Center: **https://uh.edu/class/english/lcc/current-students/student-health-center/index.php**

List of Topics

Functions and Their Limits (Chapter 1)

- Concept and definition of a limit
- Visualizing and computing limits
- Continuity and types of discontinuities
- The Intermediate Value Theorem
- Squeeze Theorem and Special Limits

Differentiation (Chapter 2)

- The limit definition of the derivative
- Derivatives of Polynomials and Trig Functions
- Differentiation Rules (Product, Quotient, Chain)
- Implicit Differentiation

Applications (Chapters 3 and 5)

- Related Rates
- The Mean-Value Theorem
- Local and absolute extrema
- Concavity and Points of Inflection
- Curve Sketching
- Optimization
- Differentials / Tangent Line Equations
- L'Hospital's Rule

Transcendental Functions (Chapter 4)

- Inverse Functions
- Exponential Functions
- Logarithmic Functions
- Inverse Trigonometric Functions
- Hyperbolic Functions

Integration (Chapter 6)

- The Definite Integral
- The Fundamental Theorems of Calculus
- Rules of Integration
- Integration by Substitution