Math 1431: Calculus I
Course Syllabus – Summer 2021

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Course number: MATH 1431
Section number: 12902
Delivery format: Online ASynchronous
Prerequisites: Credit for MATH 1330 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
What work will I be turning in for this course? (Major Assessments)

In this course, you will complete four exams, one final, online quizzes, homework, and “poppers” (lecture or lab pop quizzes). Here is how these components will contribute to your final course grade.

Assessments and Percentage Points
Prerequisite Test: 3%
Tests 2, 3, 4 (online): 15% each
Final Exam (online): 25%
Quizzes (online, 26): 12%
Homework: 8%
Poppers/Attendance: 7%

Total: 100%

Note: The percentage grade on the final exam (without extra credit) can be used to replace your lowest test score if it is better than your lowest test grade.

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 ≤ x</td>
</tr>
<tr>
<td>B-</td>
<td>80 ≤ x &lt; 83</td>
</tr>
<tr>
<td>D+</td>
<td>67 ≤ x &lt; 70</td>
</tr>
<tr>
<td>A-</td>
<td>90 ≤ x &lt; 93</td>
</tr>
<tr>
<td>C+</td>
<td>77 ≤ x &lt; 80</td>
</tr>
<tr>
<td>D</td>
<td>63 ≤ x &lt; 67</td>
</tr>
<tr>
<td>B+</td>
<td>87 ≤ x &lt; 90</td>
</tr>
<tr>
<td>C</td>
<td>73 ≤ x &lt; 77</td>
</tr>
<tr>
<td>D-</td>
<td>60 ≤ x &lt; 63</td>
</tr>
<tr>
<td>B</td>
<td>83 ≤ x &lt; 87</td>
</tr>
<tr>
<td>C-</td>
<td>70 ≤ x &lt; 73</td>
</tr>
<tr>
<td>F</td>
<td>below 60</td>
</tr>
</tbody>
</table>

IMPORTANT: Interim grade policy does not apply to Summer 2021 semester.

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

This course is taught asynchronously, which means there is no designated day or time assigned to the course (optional synchronous sessions will be provided, 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 is not self-paced; students are expected to follow assignment due dates as specified on CASA calendar.

Lecture videos are posted on CASA calendar; students are expected to watch these videos in a timely manner. After finishing each video, we recommend working on the corresponding quiz and homework assignments.

Live meetings for this course will take place on the dates and times announced on CASA calendar. During these live meetings the instructor will answer your questions, review important
topics, or work on additional topics to be covered. Videos will be posted after live meetings. If you cannot attend the live meeting, make sure you watch the video. Attendance is not mandatory but is recommended.

Live meetings will take place on **MS TEAMS**. All students at UH have access to Office 365 which includes use of Microsoft Teams. For help and instructions accessing Microsoft Teams please consult [this video guide](https://www.casa.uh.edu). Students enrolled in this class will be automatically added to their instructor’s Team. Make sure you are a member of the Teams: MATH1431-12902-2021-SU

- 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.

This course features a corresponding recitation that does not have a separate grade. Graduate teaching assistant conducts 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.

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 several days 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).
**Technology Requirements**

Computer, web camera, and internet access is required for this course. For the current list of minimum technology requirements and resources, copy/paste/navigate to the URL [http://www.uh.edu/online/tech/requirements](http://www.uh.edu/online/tech/requirements). For additional information, contact the office of Online & Special Programs at UHOnline@uh.edu or 713-743-3327.

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.

**Online Quizzes**

Online quizzes will be given regularly in this course.

- 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 20 times to take each quiz.
- There is a 60 minute time limit for most quizzes.
- There will be several 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**

- Several homework assignments will be assigned during the semester. The homework problems and due dates will be posted on CASA.
- 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 score on the multiple-choice homework is the number of correct answers out of the total number of questions.
- 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/Attendance**

Poppers might be given in two forms; during live meetings or embedded in pre-recorded lecture videos.

1) Poppers given during LIVE CLASS or LAB MEETINGS:
   Your instructor or your teaching assistant might assign poppers during live meetings. Turn in these poppers before the due date under the EMCF tab at CASA. Videos will be posted after live meetings; if you cannot attend the live meeting; make sure you watch the video ASAP and turn in the popper questions.

2) Poppers embedded in LECTURE VIDEOS:
   For some sections, pre-recorded lecture videos with popper questions embedded in them might be assigned. Turn in the popper under EMCF tab at CASA under the corresponding title (the title will be specified on the video).

Popper due dates and times can be seen under EMCF tab at CASA. 15% of popper questions will be dropped to cover for emergencies or unexpected events.

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; it also prevents other students from watching videos to learn the material and hence this violation is taken very seriously.
Tests

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

- All tests will be taken online at CASA using the CASA Monitor.
- 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. Reserve a time as soon as 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.
- Read the information and policies about CASA Monitor on CASA – students are expected to meet the technology requirements as announced by UH (a working webcam, reliable internet, etc.).
- 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.
- You have 1 attempt on all tests.
- You can NOT use calculators during any of the exams; study accordingly.

**IMPORTANT: Not following CASA Monitor Exam rules might invalidate your exam without a make-up option.**

Test 1 is over the pre-requisite material (algebra and precalculus).

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](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 1431 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 at CASA calendar)*

<table>
<thead>
<tr>
<th>Test</th>
<th>Prerequisite Material</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>Prerequisite Material</td>
<td>June 7-10</td>
</tr>
<tr>
<td>Test 2</td>
<td>Chapters 1 and 2</td>
<td>June 28-29</td>
</tr>
<tr>
<td>Test 3</td>
<td>Chapter 3</td>
<td>July 12-13</td>
</tr>
<tr>
<td>Test 4</td>
<td>Chapters 4 and 5</td>
<td>July 26-27</td>
</tr>
<tr>
<td>Final</td>
<td>Comprehensive (covers all chapters)</td>
<td>August 11</td>
</tr>
</tbody>
</table>

**Final Exam**

Final is comprehensive and mandatory for ALL students. **There is no “exemption” or “opt-out” from the final.** Check course website for final exam schedule. 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 20 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

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 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.

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 Access 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](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.

**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.
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/

CSD Accommodations

Academic Adjustments/Auxiliary Aids: The University of Houston System 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 students who have a disability. In accordance with Section 504 and ADA guidelines, University of Houston 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 visit The Center for Students with Disabilities (CSD) website at http://www.uh.edu/csd/ for more information.

Accommodation Forms: Students seeking academic adjustments/auxiliary aids must, in a timely manner (usually at the beginning of the semester), provide their instructor with a current Student Accommodation Form (SAF) from the CSD office before an approved accommodation can be implemented.

Details of this policy, and the corresponding responsibilities of the student are outlined in The Student Academic Adjustments/Auxiliary Aids Policy (01.D.09) document under [STEP 4: Student Submission (5.4.1 & 5.4.2), Page 6]. For more information please visit the Center for Students with Disabilities FAQs page.

Additionally, if a student is requesting a (CSD approved) testing accommodation, then the student will also complete a Request for Individualized Testing Accommodations (RITA) paper form to arrange for tests to be administered at the CSD office. CSD suggests that the student meet with their instructor during office hours and/or make an appointment to complete the RITA form to ensure confidentiality.

Students should bring a copy of their approved SAF form when meeting with the instructor to complete a RITA form.

*Note: RITA forms must be completed at least 48 hours in advance of the original test date. Please consult your counselor ahead of time to ensure that your tests are scheduled in a timely manner. Please keep in mind that if you run over the agreed upon time limit for your exam, you will be penalized in proportion to the amount of extra time taken. Please keep in mind that if you run over the allotted time indicated on your RITA form, then your exam score will be reduced 1 percentage point for each minute over.
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

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

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