

## MATH 2313-002 Calculus I —Fall 2025

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|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Instructor:   | Dr. Kun Gou (Associate Professor of Mathematics)                                                                                                              |
| Email:        | kgou@tamusa.edu                                                                                                                                               |
| Web:          | <a href="https://apps.tamusa.edu/course-information/Profile/Faculty/387?=Kun-Gou">https://apps.tamusa.edu/course-information/Profile/Faculty/387?=Kun-Gou</a> |
| Office:       | Classroom Hall 220                                                                                                                                            |
| Office hours: | M 3-5pm; W 2-4pm<br>or by appointment (can also be online office hours using zoom)                                                                            |

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CLASS MEETING TIME AND LOCATION: MW 12:30-1:45pm; Location: STEM 131  
(MATH 2113-002 Calculus I Lab: M 2-2:50pm, Science & Technology 131)

TEXTBOOK: Essential Calculus: Early Transcendentals (2nd ed.), Stewart, Cengage, ISBN-13: 9781337058742. You can access the e-book from webassign. You don't have to buy a hard-copy book.

ONLINE PLATFORM: Homework will be given online at [www.webassign.com](http://www.webassign.com). Every student needs to use this website to access homework and the e-textbook. Registration steps: log into the course in Blackboard -- >Content -- >Calculus I-WebAssign. Then click on Course on the left column and select "Calculus I (Fall 2025 by Dr. Gou)". Then you can view the whole course information including e-book and assignments.

**Note: Do not pay it anymore. You have paid by your tuition;**

**Only use university email to register. Use the same name as appearing in your student ID to register.**

Introduction video for webassign: <https://play.vidyard.com/rpx8McFxi4sELrbEszL4fy> (This video walks students through the key features in WebAssign, with tips for making the most of the platform in your class.)

COURSE DESCRIPTION: The course encompasses the study of limits, continuity, and derivatives of algebraic, trigonometric and transcendental functions and related applications to include maximizing or minimizing a function and rate of change problems. The course also introduces the definite integral, the Fundamental Theorem of Calculus and application to calculation of areas. Curve sketching and graphing tools will be utilized in exploring these concepts. Prerequisite: MATH 2312 Pre-Calculus with a grade of "C" or higher, or equivalent or permission by the department.

COURSE OBJECTIVES: MATH 2312 helps students develop Critical Thinking, Communication, and Empirical and Quantitative Skills by focusing on student understanding of key mathematical concepts required for calculus readiness to include recognizing, identifying, solving, analyzing and explaining appropriately model applicable real world situations.

### LEARNING OUTCOMES:

- Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.
- Interpret and draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point.
- Determine and explain whether a function is continuous and/or differentiable at a point using limits.
- Apply differentiation rules to differentiate algebraic and transcendental functions.
- Identify and apply appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine and explain solutions to applied problems.
- Evaluate definite integrals using the Fundamental -Theorem of Calculus.
- Recognize and articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.

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**GRADING POLICY:** Final grades will be based on two midterm tests, HWs, attendance, and the final. The final will be comprehensive. Ratios are: tests 35%, HW 30%, attendance 5%, and final 30%.

The grading scale is:

|              |           |           |           |           |        |
|--------------|-----------|-----------|-----------|-----------|--------|
| total points | $\geq 90$ | $\geq 80$ | $\geq 70$ | $\geq 60$ | $< 60$ |
| grade        | A         | B         | C         | D         | F      |

**CALCULATOR POLICY IN EXAMS:** A scientific non-graphing, non-programmable calculator is required and allowed on all exams. No cell phone, laptop, or graphing calculator will be allowed, and online math utilities (e.g., Desmos) are also not allowed. Students are responsible to bring their own scientific calculators. The instructor does not provide scientific calculators. Students can also try to check whether the library has a scientific calculator to borrow.

***HW extension policy:***

- (1) The extension window in Webassign will close 4 days after the original due date. After it closes, you cannot request extension anymore;
- (2) If you request extension within the 4 days, it is automatically granted for another 4 days after your request but with a 30% penalty for the unfinished part;
- (3) Extension without penalty is only given for serious excuses like death of relatives, attending courts, and university activities etc. Students should show the instructor documented evidence before requiring extension without penalty. Extension without penalty is generally not given for minor excuses like minor headache, work, or car issue;
- (4) The extension request needs to be made before the original due date of each HW.
- (5) If you view the key of the HW after the due date, extension request is automatically denied by Webassign.

***Midterm test extension policy:***

Tests can only be rescheduled for a later date in case of student illness, family issues, attending University events, or other significant cases approved by the instructor. An official document is required for the excuse. Students have to immediately inform the instructor about the circumstances and negotiate the day of the makeup. *Notice to the instructor for make-up after the regular test/final time is not acceptable. Makeup cannot be made 5 weekdays later than the regular test dates.*

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***App assistance:*** Circlein: a forum for group discussions and communication of ideas. Find it in Content of the Blackboard course.

***Suggested Learning Strategy:***

Be advised that college math learning requires much initiative from the students to not only really remember the principles, but also **understand** the theory, and finally apply it to solve abstract/practical problems independently. So be hard-working to read and understand the class-notes and textbook. If you have a wrong problem in HW, test, or quiz, understand why, and know the right way to solve it. Feel free to talk to your instructors in their office hours, and use the online platform to self-learn if necessary. Solve the problem; don't accumulate it. In summary:

- Review the classnotes regularly;
- Read the textbook to enhance understanding (more detailed materials);
- Finish homework on time. Don't wait to the last minute to do it. Understand why your solutions are wrong and how to find the correct ones;
- Discuss with your instructor or classmates for difficult concepts.
- Only you yourself deeply know if your study is enough or not. Take action to strengthen yourself in learning effect. Aside from the regular class time each week, you should devote at least 6-8 hours weekly

to studying on your own.

***How to prepare for mid-term exams and the final exam:***

- Review all our class notes, and deeply understand the materials before the tests.
- Also try to work out the examples in the notes and compare your answers with the answers in the notes.
- Many test problems will be similar to HW problems. Please understand the HW problems deeply and make sure you can work out the problems correctly without resorting to the help resources.
- You can also work on additional not-graded exercises for practice.
- Check your solution carefully before you write your answer to make sure it is right by your understanding.
- Pay attention to the detail. Follow the requirement of the answer format like how many decimal places are needed.

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**University Email Policy and Course Communications:** All correspondence between professors and students needs to occur via **University email accounts**. You need to have Jaguar email account ready and working. If it is not working, contact the help desk at sahelp@tamusa.edu or at 210-784-4357. Students are expected to check the university emails frequently since important announcements and course materials will be sent there.

**Civility in the Classroom:** Students are expected to be supportive and encouraging to other students to help create a positive learning environment. Students are expected not to use cell phones, laptops, or other electronic devices in class for any non-course related purposes. Please make every effort to avoid situations that require you to leave before the end of class. However, in the event that you must leave class early please inform your instructor in advance.

**Academic Dishonesty:** Students at Texas A&M University-San Antonio are expected to adhere to the highest standards of academic honesty and integrity. Academic Dishonesty for which a student is subject to penalty includes cheating, plagiarism, fabrication, multiple submission, misrepresentation of academic records, facilitating academic dishonesty, unfair advantage, violating known safety requirements and ethical misconduct. This includes holding other students to the same standards and reporting any incidents of alleged violation of the honesty policy to the instructor involved or, if necessary, to the appropriate academic department head. All students are responsible for being familiar with the Academic Dishonesty Policy which may be found in the Texas A&M University-San Antonio Student Handbook.

Your instructor is sympathetic to the pressures faced by many students (e.g., full time employment, family responsibilities), and will do his/her best to provide you with any assistance you may need to succeed in this course. However, he/she is also committed to awarding grades based on students' honest efforts. Therefore, your instructor will accept no excuses for any form of academic misconduct. All incidents of suspected academic dishonesty will be investigated and pursued to the fullest extent permitted by university policy.

*For other important policies and resources, please see below*

## IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Individuals with Disabilities: Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, Disability Support Services is located in the Central Academic Building, Suite 210. You can also contact us via phone at (210) 784-1335, visit us <https://www.tamusa.edu/Disability-Support-Services/index.html> or email us at [dss@tamusa.edu](mailto:dss@tamusa.edu). Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services as soon as possible.

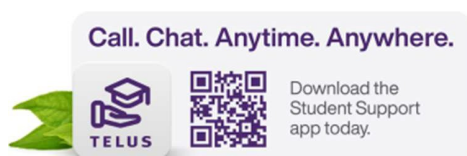
Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing [tutoring@tamusa.edu](mailto:tutoring@tamusa.edu), calling (210) 784-1307, or visiting the Central Academic Building, room 202.

Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment, call 210-784-1331 or visit Madla 120.

All mental health services provided by the SCC are **free and confidential** (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services. For more information on SCC services visit <http://tamusa.edu/studentcounseling>

***Crisis support is available 24/7 by calling the SCC at 210-784-1331.***

Additionally, the TELUS Student Support App provides a variety of mental health resources to including support for in the moment distress, an anonymous peer-to-peer support network, mental health screenings, podcasts, and articles to improve your mental wellbeing.



Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio's mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com>

More information about Emergency Operations Plan and the Emergency Action Plan can be found here: <https://www.tamusa.edu/about-us/emergency-management/>

Download the SafeZone App (<https://safezoneapp.com/>) for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900.

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended by the published Census Date (the first week of class). Any student receiving federal financial aid who does not attend prior to the published Census Date (the first week of class) will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Writing, Language, and Digital Composing Center: The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on "Writing, Language, and Digital Composing Center" to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at <https://www.tamusa.edu/academics>.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to submit a CARE referral (<https://www.tamusa.edu/university-policies/Student-Rights-and-Responsibilities/file-a-report.html>) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources.

Office Hours: All faculty with teaching assignments should include regularly scheduled office hours on each syllabus in addition to "by appointment." Please review your appointment letter for the number of weekly office hours you are expected to set. Regularly scheduled office hours should also be posted outside your office door (where applicable).

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to visit the Office of Military Affairs for any question involving federal or state VA Education Benefits. Visit the Patriots' Casa building, room 202, or to contact the Office of Military Affairs with any questions at [military.va@tamusa.edu](mailto:military.va@tamusa.edu) or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided with an opportunity to make up any examination, study, or course work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not

affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "F" grades and will impact the student's GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equal opportunity, and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality and the uniqueness of the individual on our campus and within our state, nation, and world. All decisions and actions involving students and employees are to be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the University's Civil Rights Officer at 210-784-2061 or [titleix@tamusa.edu](mailto:titleix@tamusa.edu).

Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking based on sex, know that help and support are available. A&M-San Antonio's Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and trained victim advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment, sexual violence, or other related sex-based misconduct, the faculty member must share that information with the university's Title IX Coordinator ( [titleix@tamusa.edu](mailto:titleix@tamusa.edu), 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students: Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student's studies; (3) participate in an alternative program; (4) change the student's major, degree, or certificate program; or (5) refrain from joining or cease participating in any course, activity, or program at the University. The university will provide such reasonable modifications to pregnant students as would be provided to a student with temporary medical condition that are related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status ([titleix@tamusa.edu](mailto:titleix@tamusa.edu); 210-784-2061; CAB 439K). Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources.

Young Jaguars: can support parenting students with daycare who meet this criteria: Must be enrolled in classes at TAMUSA in the current semester. Must be Pell eligible or a single parent. They serve children

ages 3 to 12-years-old. Children must be enrolled in Pre-K-3 through 6th grade.

[youngjaguars@tamusa.edu](mailto:youngjaguars@tamusa.edu) (210) 784-2636

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

#### *Students' Rights*

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, gender identity, gender expression, and pregnancy/parenting or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.
4. Each student subject to disciplinary action arising from violations of university students' rules shall be assured a fundamentally fair process.

#### *Students' Responsibilities*

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty, and administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, Student Code of Conduct, on our website, and University Catalog, and to comply with them, as well as with federal, state, and local laws.
3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to recognize the University's obligation to provide a safe environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notifications.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation, or disability. Conduct that infringes on the rights of another individual will not be tolerated.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures please review the Student Code of Conduct (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/documents/Student-Handbook-2022-23.pdf>) or visit the resources available in the OSRR website (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/academic-integrity.html>).

## Broader Use of Generative AI Permitted Within Guidelines

Use of artificial intelligence (AI) tools, including ChatGPT, is permitted in this course for students who wish to use them. To adhere to our scholarly values, students must cite any AI-generated material that informed their work (this includes in-text citations and/or use of quotations, and in your reference list). Using an AI tool to generate content without proper attribution qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

**NOTE:** Guidance for how to cite AI-generators, like ChatGPT, can be found here <https://apastyle.apa.org/blog/how-to-cite-chatgpt>

### Important Dates: Fall 2025 Regular 16-Week Session

|                |                                          |
|----------------|------------------------------------------|
| August 25      | First day of class                       |
| September 1    | Labor Day Holiday – No classes           |
| September 10   | Census Date                              |
| November 14    | Last day to drop with an automatic "W"   |
| November 25    | Last day to withdraw from the University |
| November 26    | Study Day – No classes                   |
| November 27-29 | Thanksgiving Holiday – No classes        |
| December 4     | Last day of classes                      |
| December 5     | Study Day – No classes                   |
| December 6-12  | Final exams                              |
| December 16    | Commencement                             |

*The complete academic calendar is available online: <https://www.tamusa.edu/academics/academic-calendar/index.html>*

## Calculus I - Fall 2025

**Tentative schedule** (Subjected to change)

| Date     | Content                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------|
| Aug 25 M | Introduction to class; class set up<br>Chapter 1: Functions and Limits<br>1.3 Limit of a Function     |
| 27 W     | 1.4 Calculating Limits                                                                                |
| Sep 1 M  | Labor Day, no class                                                                                   |
| 3 W      | 1.5 Continuity<br>1.6 Limits Involving Infinity                                                       |
| 8 M      | Chapter 2: The Derivatives<br>2.1 Derivatives and Rates of Change<br>2.2 The Derivative as a Function |
| 10 W     | 2.3 Basic Differentiation Formulas<br>2.4 The Product and Quotient Rules                              |
| 15 M     | 2.5 The Chain Rule                                                                                    |
| 17 W     | 2.6 Implicit Differentiation                                                                          |
| 22 M     | 2.7 Related Rates                                                                                     |
| 24 W     | 2.8 Linearization and Differentials                                                                   |
| 29 M     | Chapter 3: Inverse Functions<br>3.3 Derivatives of Logarithmic and Exponential Functions              |
| Oct 1 W  | 3.7 Indeterminate Forms and L' Hospital's Rule                                                        |
| 6 M      | Chapter 4: Applications of Differentiation<br>4.1 Maximum and Minimum Values                          |
| 8 W      | Test 1                                                                                                |
| 13 M     | 4.2 The Mean Value Theorem<br>4.3 Derivatives and the Shapes of Graphs                                |
| 15 W     | 4.5 Optimization Problems                                                                             |
| 20 M     | 4.7 Antiderivatives                                                                                   |
| 22 W     | Chapter 5: Integrals<br>5.1 Area and Distances                                                        |
| 27 M     | 5.2 The Definite Integral                                                                             |
| 29 W     | 5.3 Evaluating Definite Integral                                                                      |
| Nov 3 M  | 5.4 The Fundamental Theorem of Calculus                                                               |
| 5 W      | 5.5 The Substitution Rule                                                                             |
| 10 M     | Review                                                                                                |
| 12 W     | Review                                                                                                |
| 17 M     | Review                                                                                                |
| 19 W     | Review                                                                                                |
| 24 M     | Review for Test 2                                                                                     |
| 26 W     | Test 2                                                                                                |

|                                 |                  |
|---------------------------------|------------------|
| Dec 1 M                         | Review           |
| 3 W                             | Review for Final |
| Wednesday, 12/10, 10:00-11:50am | Final Exam       |