

MATH 2413.020

Calculus 1



Instructor: Trey Smith

Email: trey.smith@angelo.edu

Phone: 325 486 5441

Office: 219A

Office Hours: MTWF 10:00-11:00 & 2:00-3:30

Course Schedule

The following is a tentative outline of the material to be covered. I have included the designated test date for each topic. All designated tests are scheduled for Fridays at 11:00 AM. *I reserve the right to change the material and/or sequence.*

Topics by week

- 1) Review of Functions
- 2) Limits **Q1 (Limits) – 1/28**
- 3) Derivatives: Definition and Properties
- 4) Derivatives: Properties and Graphs **Q2 (Derivatives) – 2/11**
- 5) Derivatives Involving Trig Functions **Q3 (Trig) – 2/18**
- 6) The Chain Rule and Inverse Functions **Q4 (Chain) – 2/25**
- 7) Implicit Differentiation and Related Rates
- 8) Related Rates and Exponential Derivatives **Q5 (Implicit) – 3/11**
- 9) Exponential and Logarithmic Derivatives **Q6 (Exponential) – 3/25**
- 10) Derivatives and Graphing
- 11) Derivatives and Graphing **Q7 (Graphing) – 4/8**
- 12) L'Hopital's Rule **Q8 (L'Hopital) – 4/15**
- 13) Antiderivatives and Definite Integrals **Q9 (Antiderivatives) – 4/22**
- 14) The Substitution Rule **Q10 (Substitutions) – 4/29**
- 15) Review
- 16) Final Exam: Tuesday, 5/10, 10:30-12:30

Grading

Evaluation and Grades

This is a *Standards Based Course*; you will need to demonstrate mastery of ten different *standards* in order to be successful. For each standard there will be a quiz. The rules regarding standards quizzes are listed below:

1. If you pass (70 or better) a quiz on the designated quiz day, you will receive 9 points.
2. If you pass a quiz on any other day you will receive 7 points.
3. If you never pass a particular quiz, you will receive 0 points for that quiz.
4. You may only take one quiz in a single day.
5. You may only take a designated quiz on a designated quiz day. For example, you may not take Q3 on the day designated for Q6.
6. You must take a particular quiz within a week of your last attempt for that quiz. For example, if you fail Q3, you must retake Q3 within a week.
7. You may retake quizzes 1 through 9 up until Thursday, April 28th. You may retake Q10 up until Friday, May 6th.

So you will have ten standards grades. Those grades will be added together. Notice that sum will range from 0 to 90 points. The additional 10% of your grade will be your homework average. I will likely throw out your three lowest homework grades before computing that average.

The final exam will affect your grade in the following way: if you score less than 60% on the final, your quiz average will be reduced by a letter grade. If you score a 90% or above on the final, your grade will improve by a letter grade.

Grading System

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:

A = 90-100 points

B = 80-89 points

C = 70-79 points

D = 60-69 points

F = 0-59 points

Course Information

Prerequisite Course

Mathematics 2312

Student Learning Outcomes

- 1. The students will demonstrate factual knowledge including the mathematical notation and terminology used in this course.** Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in Calculus I as they pertain to functions, limits, derivatives, and integrals.
- 2. The students will describe the fundamental principles including the laws and theorems arising from the concepts covered in this course.** Students will identify and apply the laws and formulas that result directly from the definitions; for example, domain and range of a function, operations on functions, the limit laws, the differentiation formulas, and the Fundamental Theorem of Calculus.
- 3. The students will apply course material along with techniques and procedures covered in this course to solve problems.** Students will use the facts, formulas, and techniques learned in this course to sketch graphs of functions, to study position-velocity-acceleration problems, to solve related rate and optimization (“max-min”) problems, and to determine the area under the curve of a function.
- 4. The students will develop specific skills, competencies, and thought processes sufficient to support further study or work in this field or related fields.** Students will acquire a level of proficiency in the fundamental concepts and applications necessary for further study in academic areas requiring Calculus I as a prerequisite, or for work in occupational fields requiring a background in Calculus I. These fields might include computer science, engineering, the physical and natural sciences as well as mathematics.

Course Delivery

Face to Face

You will be expected to attend class in person. You are responsible for any missed classes which means that you will need to make arrangements with another student or

myself to acquire any missed content. All standards quizzes will be administered in person. All homework will be submitted through [Blackboard](#).¹

Required Texts and Materials

Open Stax Calculus 1 published by Rice University. This text is available for free in a PDF format. The downloadable text is available on my Blackboard page.

Technology Requirements

Access to exams, quizzes, and homework will be through Blackboard. You will need to scan or photograph any written assignments and submit them through Blackboard. So you will necessarily need a computer, iPad or phone with the above capability. A printer would undoubtedly make your life easier, but it is not required.

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](#)²
- [Angelo State University Catalog](#)³

Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university's [Statement of Academic Integrity](#)⁴ (Page 97).

Accommodations for Students with Disabilities

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the

Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student's responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the [Student Disability Services website](#).⁵ The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dr. Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 [Grading Procedures](#)⁶ for more information.

Plagiarism

Plagiarism is a serious topic covered in ASU's [Academic Integrity Statement](#)⁷ in the Student Handbook. Plagiarism is the action or practice of taking someone else's work, idea, etc., and passing it off as one's own. Plagiarism is literary theft.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the [ASU Writing Center](#).⁸

Student Absence for Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 [Student Absence for Observance of Religious Holy Day](#)⁹ for more information.

Title IX at Angelo State University

Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Miller, J.D. You may submit reports in the following manner:

Online: [Incident Reporting Form](#)¹⁰

Face to Face: Mayer Administration Building, Room 210

Phone: 325-942-2022

Email: michelle.miller@angelo.edu

Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State's policy please visit the [Title IX website](#).¹¹

Information About COVID-19

Please refer to ASU's [COVID-19 \(Coronavirus\) Updates](#)¹² web page for current information about campus guidelines and safety standards as they relate to the COVID-19 pandemic.

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification on potentially short notice based on developing circumstances.

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- 1 <https://blackboard.angelo.edu/>
 - 2 <https://www.angelo.edu/current-students/student-handbook/>
 - 3 <https://www.angelo.edu/academics/catalog/>
 - 4 <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=97>
 - 5 <https://www.angelo.edu/current-students/disability-services/>
 - 6 <https://angelo.policystat.com/policy/10659448/latest/>
 - 7 <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=97>
 - 8 https://www.angelo.edu/current-students/writing-center/academic_honesty.php
 - 9 <https://angelo.policystat.com/policy/10659368/latest/>
 - 10 <https://www.angelo.edu/incident-form>
 - 11 <https://www.angelo.edu/title-ix>
 - 12 <https://www.angelo.edu/covid-19/>