

## MATH 1634: Calculus I Spring Semester 2020

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**Office Hours:** Monday, Wednesday and Friday 10am-12noon  
If you would like to see me but cannot come during one of these times, please call first or make an appointment.

**Hours Credit:** 4 hours

**Prerequisites:** MATH 1112 or MATH 1113 or equivalent

**Time and location:** MW 2pm-3:15pm, Boyd 304 and  
Friday 2:25pm-3:15 pm, Boyd 304

**Course Description:** The first of a three-course sequence in calculus. Limits, Applications of derivatives to problems in geometry and the sciences (physical and behavioral). Problems which lead to anti-derivatives.

**Textbook:** Single Variable *Calculus* Vol 1, 7<sup>th</sup> Edition, by James Stewart.  
ISBN: 0-538-49870-6

**Topics:** Limits, Continuity, Tangents and Velocity as Rates of Change, Differentiation Rules (including the Power Rule, Product Rule, Quotient Rule, and Chain Rule), Differentiation of Trigonometric Functions, Implicit Differentiation, Higher Derivatives, Derivatives of Logarithmic Functions, Hyperbolic Functions, Related Rate Problems, Maximum-Minimum Problems, The Mean Value Theorem, Hospital's Rule and Indeterminate Forms, Curve Sketching, Newton's Method, Anti-derivatives, Definite Integrals, the Fundamental Theorem of Calculus, and Integration by Substitution.

**We will cover:**

**Sections:** 1.4, 1.5, 1.6, 1.7, 1.8

**Sections:** 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.8, 2.9

**Sections:** 3.1, 3.2, 3.3, 3.4, 3.5, 3.7, 3.8, 3.9

**Sections:** 4.1, 4.2, 4.3, 4.4, 4.5

## Learning Outcomes:

1. The student will be able to compute limits.
2. The student will be able to compute derivatives of polynomial, rational, exponential, logarithmic, and trigonometric functions.
3. The student will be able to apply calculus to related rate, maximum-minimum, and curve sketching problems.
4. The student will understand the definition of the indefinite and definite integral.
5. The student will understand and be able to apply the Fundamental Theorem of Calculus.
6. The student will be able to compute definite integrals using the techniques of integration by inspection and integration by substitutions.

**Notice:** Please do not use your cell phone during lectures, tests or exams.

**Homework:** After each lesson, I will assign homework problems (from the textbook) that are not to be turned in and graded but that are meant to reflect the sort of questions you can expect on tests and the final exam. I encourage you to use my office hours if you have any questions.

**Attendance:** If you miss a class, you are responsible for obtaining any information that you missed. If you miss a test or an exam, you must have a *university-approved excuse* and you must **make arrangements with me in advance** in order to take a make-up test/exam.

**Calculators:** You are not allowed to use “**advanced**” calculators such as TI-84 or better in the test or final exam.

**Tests:** There will be three tests. Each will be worth 25%.

Test 1: Wednesday January 31, 2020

Test 2: Wednesday February 28, 2020

Test 3: Wednesday March 27, 2020

**(Tests dates are subject to change.)**

**Final exam:** The final exam will be on Monday, May 4, 2020, 2:00-4:00 pm  
Final exam is worth 25% toward your final grade.

**Grading Scale:** A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, F: 0-59%.

**Grading:** Your final grade will be determined as follows:

Tests: 75% and

Final exam: 25%.

Students, please carefully review the following information at this link

<https://www.westga.edu/administration/vpaa/common-language-course-syllabi.php>

It contains important material pertaining to your rights and responsibilities in this class. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.