

## [Calculus with Analytic Geometry I]

[MAC2311]

**Course Description:** This course covers polynomial, trigonometric, exponential, and logarithmic functions; first and second derivatives and their interpretations; definition and interpretation of the integral; differentiation rules; implicit differentiation; applications of the derivative; anti-derivatives; fundamental theorem of calculus.

### **Course Learning Objectives:**

In all three Calculus courses, students will develop their ability to analyze a problem mathematically, assign variables, identify appropriate functions, and apply proper tools to find a solution. Students will also improve their ability to describe problems and solutions using proper vocabulary. Students will demonstrate mastery through discussions, activities, presentations, and performance on homework assignments and tests.

The purpose of this course is to introduce students to calculus and to demonstrate its usefulness in selected applications. The material in this course should be mastered before the student proceeds to courses for which it is a prerequisite.

In particular, through Calculus 1, students will...

- be able to explain what a limit, a derivative, and an integral represent in a variety of settings;
- be able to evaluate limits, derivatives, and basic integrals using a variety of methods;
- learn to recognize appropriate methods for evaluating limits, derivative, and integrals;
- know how to represent quantities such as a rate of change or a total change using proper notation and language;
- work with classmates to create well written solutions and will discuss and explain course material to their peers.
- select and apply appropriate methods (i.e., mathematical, statistical, logical, and/or computational models or principles) to solve real-world problems.
- use a variety of forms to represent problems and their solutions.

### **Grading Assignments:**

There will be at least 3 midterm exams, a final exam, quizzes, homework, and collaborative assignments.

### **LIBERAL STUDIES STATEMENT**

This course has been approved to meet FSU's Liberal Studies Quantitative and Logical Thinking requirements and helps you become a critical analyst of quantitative and logical claims.

In order to fulfill the State of Florida's College mathematics and computation requirement the student must earn a "C-" or better in the course.

By the end of the course, students will demonstrate the ability to:

1. Select and apply appropriate methods (i.e., mathematical, statistical, logical, and/or computational models or principles) to solve real-world problems.
2. Use a variety of forms to represent problems and their solutions.

## **UNIVERSITY ATTENDANCE POLICY**

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

## **ACADEMIC HONOR POLICY**

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the

process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and... [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>)

## **AMERICANS WITH DISABILITIES ACT**

Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

- (1) must register with and provide documentation to the Office of Accessibility Services (OAS);
- (2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and, (3) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the

Office of Accessibility Services 874 Traditions Way 108 Student Services Building Florida State University Tallahassee, FL 32306-4167 (850) 644-9566 (voice) (850) 644-8504 (TDD)  
oas@fsu.edu <https://dsst.fsu.edu/oas>

## **ACADEMIC SUCCESS**

Your academic success is a top priority for Florida State University. University resources to help you succeed include tutoring centers, computer labs, counseling and health services, and services for designated groups, such as veterans and students with disabilities. The following information is not exhaustive, so please check with your advisor or the Dean of Students office to learn more.

## **CONFIDENTIAL CAMPUS RESOURCES**

Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

Victim Advocate Program  
University Center A, Rm. 4100  
(850) 644-7161  
Available 24/7/365  
Office Hours: M-F 8-5  
<https://dsst.fsu.edu/vap>

Counseling and Psychological Services  
Askew Student Life Center, 2nd floor  
942 Learning Way  
(850) 644-8255  
<https://counseling.fsu.edu/>

University Health Services  
Health and Wellness Center  
(850) 644-6230  
<https://uhs.fsu.edu/>