



Gordon State College  
University System of Georgia

**Department of Applied Sciences**

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Barnesville, GA 30204  
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[www.gordonstate.edu](http://www.gordonstate.edu)

**Summer 2023**

**Math 1501-A  
Calculus I**

**Instructor: Dr. M. ZABDAWI**  
**Email: [mzabdawi@gordonstate.edu](mailto:mzabdawi@gordonstate.edu)**  
**Office Location: IC 234 & Online in Teams**

**Recordings in Teams M,W,T,R,F: 10:00AM-11:20AM**  
**Office Hours in Teams: M,W 11:20AM-1:20PM**

**TEXT (S) AND OTHER RESOURCES**

**Textbooks: ETEXT: Stewart, James. 2015. Calculus. 9<sup>th</sup> edition. Cengage; included in your Inclusive Access. Do not buy the textbook. Your HW & Exams in WebAssign are already integrated in your course in D2L.**

**CALCULATOR: A graphing calculator is optional, Scientific is required. A Texas Instruments TI-83/TI-84 or higher or equivalent is recommended.**

**CATALOG DESCRIPTION:**

Calculus I (Math 1501)

Prerequisite: Grade of C or better in MATH 1113 or Math SAT score of 600 or Math ACT score of 26  
Credit Hours: (4-0-4) 316 Updated January 27, 2023

An analysis of functions, limits, continuity, the derivative, anti-differentiation, the definite integral, and applications.

**CONCEPTUAL FRAMEWORK:**

**Department of Applied Sciences Vision**

Provide a supportive and empowering environment where students can prepare for their future careers and a lifetime of learning.

**Department of Applied Sciences Mission**

To foster student access and achievement through innovative teaching, engaged learning, and supportive pedagogy.

**Instructor Teaching Philosophy**

The course will be conducted asynchronously online. We will be using WebAssign for HW and testing including the FE. But, we will also be using Teams for tele-conferencing recording lectures, discussions

and office hours. Check your campus email for instructions on how to log in on D2L and how to join the live sessions in Teams and how to listen to recorded lectures.

Some if not most of the HW will be done in WebAssign during lectures to better explain and illustrate the ideas. HW solutions will be posted in D2L. **Remember Mathematics is not a spectators sport, and your HW is meant to be the training ground where you learn how to bridge the gap between your thoughts and the tips of your fingers.**

## STUDENT LEARNING OUTCOMES:

Upon completion of the course, student should:

1. Compute and understand limits.
2. Derivatives of polynomials and basic Trig. functions.
3. Curve sketching & optimization.
4. Implicit Differentiation.
5. Newton's method for finding roots,
6. Anti-Derivatives, the Definite Integral & Applications.

## REQUIREMENTS:

The course is conducted asynchronously online, which means attendance is not required because all lectures will be recorded in Teams. Students should listen to the recoded lectures in Teams at their own convenience. **Students should have an access to the Internet, and should have a laptop or computer with webcam because one of the exams will be proctored online by me.** If a webcam is not available on student's computer, then student should have a cell phone with a working camera.

**20% penalty applies for late submission of HW and exams. Students who do not take the FE will get an automatic WF for the course.** Students are responsible for studying two hours outside of class for every hour in class. Studying includes activities beyond what is immediately due. For example, solving extra problems, working in a study group to teach material, going to see a tutor, writing chapter summaries, recopying notes, and creating flash cards are all common methods students use to master course material.

It is expected that you are aware of and understand that you are bound by the principles of honesty and integrity as outlined in the current Gordon State College catalog. Please review this information. Be aware that it is also college policy that you may be withdrawn from a course for excessive absences.

The last date to withdraw from class without receiving a WF is Wednesday, June 21<sup>st</sup> 2023. Please note that it is the college's policy that students must withdraw from class by 5:00PM Wednesday, 6/21/23 in order to receive a grade of W. After 6/21/23, if a student requests a W – that student must petition to be withdrawn from the class and fill out the necessary petition paperwork.

## ASSESSMENT

HW Avg. = 20% of grade, Exams Avg. = 55% f grade, FE = 25% of grade.

**A = 90.0% -100%, plus at least 70% on the FE**

B = 80.0% -89.4%

C = 70.0% - 79.4%

D = 60.0% - 69.4%

F = 59.4% and below

## **ACADEMIC INTEGRITY**

### **Academic Integrity:**

Ref.: Student Code of Conduct – Academic Catalog.

Ref.: Georgia Code of Ethics for Educators

### **Title IX**

Gordon State College is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence and stalking. If you (or someone you know) has experienced or experiences any of these incidents, know that you are not alone. All faculty members at Gordon State College are mandated reporters. Any student reporting any type of sexual harassment, sexual assault, dating violence, domestic violence or stalking must be made aware that any report made to a faculty member under the provisions of Title IX will be reported to the Title IX Coordinator or a Title IX Deputy Coordinator. If you wish to speak with someone confidentially, you must contact the Counseling and Accessibility Services office, Room 212, Student Life Center. The licensed counselors in the Counseling Office are able to provide confidential support. Gordon State College does not discriminate against any student on the basis of pregnancy, parenting or related conditions. Students seeking accommodations on the basis of pregnancy, parenting or related conditions should contact Counseling and Accessibility Services regarding the process of documenting pregnancy related issues and being approved for accommodations, including pregnancy related absences as defined under Title IX.

### **ADA and 504**

If you have a documented disability as described by the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973, Section 504, you may be eligible to receive accommodations to assist in programmatic and/or physical accessibility. The Counseling and Accessibility Services office located in the Student Center, Room 212 can assist you in formulating a reasonable accommodation plan and in providing support in developing appropriate accommodations to ensure equal access to all GSC programs and facilities. Course requirements will not be waived, but accommodations may assist you in meeting the requirements. For documentation requirements and for additional information, contact Counseling and Accessibility Services at 678-359-5585.

### **House Bill 280**

For information regarding House Bill 280, see the University System of Georgia at the following link: <http://www.usg.edu/hb280>

### **Religious Holidays**

Gordon State College acknowledges that the academic calendar can sometimes conflict with major holidays from among our diverse religious traditions. If a student must miss class due to the observance of a religious holiday, that absence may be excused. To be excused, the student must inform his/her instructors before the absence and make alternate arrangements for any work due at the time of the absence. An excused absence for the observance of a religious holiday does not excuse student from responsibility for required course work.

## COVID

For more information related to COVID-19, visit <https://www.gordonstate.edu/corona-virus/index.html>.

### MATH 1501-A Summer Semester 2023 Course Outline

**HW is assigned and graded electronically in WebAssign**

Section	HW is assigned in WebAssign
1.5: The limit of a function	
1.6: Calculating Limits Using the Limit Laws	
1.7: The Precise Definition of a Limit	
1.8: Continuity	
<b>Exam I</b>	
2.1: Derivatives and Rates of Change	
2.2: The Derivative as a Function	
2.3: Differentiation Formulas	
2.4: Derivatives of Trigonometric Functions	
2.5: The Chain Rule	
2.6: Implicit Differentiation	
2.8: Related Rates	
2.9: Linear Approximations and Differentials	
<b>Exam II</b>	
3.1: Maximum and Minimum Values	
3.2: The Mean Value Theorem	
3.3: How Derivatives Affect the Shape of a Graph	
3.4: Limits at Infinity: Horizontal Asymptotes	
3.5: Summary of Curve Sketching	
3.7: Optimization Problems	
3.8: Newton's Method	
3.9: Anti-Derivatives	
<b>Exam III</b>	
4.1: Areas and Distances	

4.2: The Definite Integral	
4.3: The Fundamental Theorem of Calculus	
4.4: Indefinite Integrals and the Net Change Theorem	
4.5: The Substitution Rule	
<b>Exam IV</b>	
5.1: Areas Between Curves	
5.2: Volumes	
5.3: Volumes by Cylindrical Shells	
5.5: Average Value of a Function	
<b>Review</b>	
<b>Final Exam Study Hard</b>	<b>In WebAssign 7/21/23. FE will be available in WebAssign. You have 120 minutes to do the FE and only one attempt.</b>