

MAC 2311: Calculus with Analytic Geometry I
Traditional Face-to-Face Course

I. Semester Information

Course Number and Title: MAC 2311: Calculus with Analytic Geometry I

Credit Hours/Contact Hours: 4 Credit Hours, 4 Hours Lecture

Prerequisites: Minimum grade of “C” in MAC 1140 and in MAC 1114. Placing into MAC 2311 by only placement test scores requires permission of the Mathematics Division Chair. To receive permission, the student who has not successfully completed MAC 1114 (Trigonometry) must verify successful completion (“C” or higher) of a trigonometry course at the high school level or higher.

Semester, Year, and Section Number: Spring 2026, CRN#10548

II. Contact Information

Instructor: Michael Brinegar Jr, Professor of Mathematics

Instructor Credentials:

A.A. Chipola College

B.S. University of West Florida

M.S. Florida State University

Instructor Phone: (850) 769-1551 EXT2857

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Division Chair: Ms. Angelia Reynolds, (850) 872-3852, areynolds@gulfcoast.edu

Division Administrative Assistant: Mr. Scott Spencer, (850) 747-3229

III. Approved Course Materials and Resources

Required Textbook: *Calculus: Early Transcendental Functions, 8th Edition*, Ron Larson and Bruce Edwards, Cengage, © 2024, ISBN 978-0-357-75932-5 or 978-0-357-75933-2

Graphing Calculator: A graphing calculator is required. A TI-83 or TI-84 model is recommended. (The TI-84-Plus will be demonstrated in class.) If you wish to use a different calculator on your tests, you must receive prior approval from the instructor. TI-89, TI-92, and other calculators that perform symbolic manipulation will not be permitted on tests. Cell phone calculators will not be permitted. Each student is expected to have his/her own calculator.

IV. Curriculum

Course Description: In this course, students will develop problem solving skills, critical thinking, computational proficiency, and contextual fluency through the study of limits, derivatives, and definite and indefinite integrals of functions of one variable, including algebraic, exponential, logarithmic, and trigonometric functions, and applications. Topics will include limits, continuity, differentiation and rates of change, optimization, curve sketching, and introduction to integration and area. NOTE: For the Calculus sequence, the math faculty at GCSC strongly advise that students complete the entire sequence at a single institution. Course content may vary depending on the institutions. Completing the sequence assures that no content is lost in transfer.

Method of Instruction: The course is conducted by a lecture-demonstration method. Lectures are based on current material from the text and demonstrate various problem-solving methods. Some formulas are proven, applications are mentioned, and procedures are outlined. Students are encouraged to ask questions. A problem assignment is made with each topic. Instructor may also allow student presentations of problems if time permits. Unit tests and the final exam are announced in advance through the daily schedule. Unit tests are returned and a key provided for review. The final exam is not returned.

Broad Goals of This Course: This course is required of most students majoring in scientific areas. It is essential that students:

- Develop the mathematical maturity required for rigorous scientific coursework.
- Gain the foundational proficiencies needed for success in Calculus II and beyond.

Student Learning Outcomes:

1. Students will calculate a limit, derivative, or integral using appropriate techniques.
2. Students will determine the continuity and differentiability of a function.
3. Students will use limits and derivatives to analyze relationships between the equation of a function and its graph
4. Students will apply differentiation techniques to model and solve real world problems.
5. Students will use integrals and the fundamental theorem of calculus to analyze the relationship between the integral of a function and the related area.

V. What the Student Can Expect of the Instructor

Office Hours: During a regular Fall or Spring semester, I am available for 10 office hours (typically walk-in) each week. The specific hours will be posted in Canvas the first week of classes. Availability outside of office hours is by appointment.

Email/voicemail response time: Students who contact me via email can expect a reply within 1 business day. Voicemail will be returned within 1 to 3 business days.

Learning Management System (LMS) Usage: Canvas basically is a website which permits instructors to post online materials for their students. I also will post keys and handouts. In addition, any outside resources that I find beneficial will be housed in Canvas for student reference,

including course videos. The Canvas gradebook will be set up to calculate current averages. Course evaluations will also be administered via Canvas.

VI. Expectations of the Student

Academic Integrity: Honest participation in academic endeavors fosters an environment in which optimal learning can take place and is consistent with the college's mission. Academic misconduct, including cheating or plagiarism, is destructive to the spirit of an educational environment and therefore will not be tolerated. "Cheating" includes but is not limited to use of any unauthorized assistance in completing course work. "Plagiarism" includes, but it not limited to, the use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment. Sanctions for incidences of academic misconduct, depending on the severity of the incidence and/or its repetition, may range from receiving an F grade (or zero) for the test, assignment, or activity, to failure of the course, to suspension or dismissal from the program or the college.

Accessibility: Gulf Coast State College supports an inclusive learning environment for all students. If there are aspects of the instruction or design of this course that hinder your full participation, reasonable accommodations can be arranged. Prior to receiving accommodations, you must register with Student Accessibility Resources. Appropriate academic accommodations will be determined based on the documented needs of the student. For information regarding the registration process, email sar@gulfcoast.edu or call 850-747-3243.

Recording of Lectures: In accordance with federal and state privacy laws, students may record class lectures for their own personal educational use, in connection with a complaint to the college, or as evidence in internal or external legal proceedings. Students may not publish or upload the recordings or any components thereof without the knowledge and written permission of the faculty member. Failure to obtain permission to publish could lead to the students' having to pay damages, attorney fees, and court costs. For more information about what can be recorded, please see the guidelines in the GCSC Student Handbook.

Attendance and Withdrawal Policies:

1. Attendance Policy. Students are expected to attend class and to arrive on time. Attendance will be taken daily.
2. No shows. Students who never attend during the first two weeks of class shall be classified as "no show" and withdrawn from the course.
3. Withdrawal Policy. Two withdrawals are permitted per course. After that, a grade will be assigned. Please be concerned about withdrawals. When admitting students into certain programs, universities may calculate a withdrawal as an F.
 - A. Student-initiated withdrawal. Students may withdraw from a course prior to the scheduled withdrawal deadline published in the college catalog. To withdraw from a class before the withdrawal deadline, go to the Admissions Forms page on the college's website, then scroll down and select Student Withdrawal Form. (You will then be prompted to log into the MyGCSC portal if you are not already logged in.) Complete and submit this online form as directed. Students who withdraw themselves will receive a "W" for the course on their

transcript. (Exception: If a student has attempted the course two or more times before, then the student cannot be granted a “W” and must receive a grade for the course.)

- B. Instructor-initiated withdrawal. If before the withdrawal deadline a student has been absent for one-eighth of the course or more, then the instructor reserves the right to withdraw that student from the course.
- C. Withdrawal with a “W” after the deadline is not permitted. Instructors do not have the authority to report a “W” after the deadline published in the college catalog. However, if the withdrawal deadline has passed, and the student has extenuating circumstances which are preventing completion of the course, the student may make an appeal with the Office of Student Affairs.

Generative Artificial Intelligence (AI) Policy

See the student handbook for further information. Students with questions about acceptable use should consult their instructor. **Prohibited Use of AI:** The use of AI-generated content is strictly prohibited in all assignments, class work, and throughout all stages of the work process, such as brainstorming, outlining, or drafting. This includes, but is not limited to, tools such as ChatGPT, Copilot, and Grammarly’s AI function. Use of AI tools will be treated as a violation of academic integrity and may result in penalties, including a zero on the assignment and additional disciplinary actions as outlined in the college’s academic integrity policy.

Use of Artificial Intelligence (AI) Tools

The Math Division at GCSC discourages you from utilizing AI as a substantial source of your learning. You are expected to do your own work in this course and will be graded on your mastery of the material herein. Although AI can be an outside resource for problem solving, it may not be a reliable source. What is most important in a math course is that you personally learn the step-by-step processes that it takes to find solutions to problems, to analyze data sets, to create mathematical models, and to apply what you have learned, in theory or through formulas, to applications of mathematics found in real-life instances.

For graded assignments (tests, quizzes, or otherwise), you will not be allowed to use any AI tools, such as chatbots, text generators, paraphrasers, summarizers or solvers, to complete any part of your assignments. Using AI tools for graded assignments will be considered a form of academic dishonesty and could result in a grade of zero for the assignment and disciplinary action. If you have any questions about what constitutes acceptable uses of AI tools, inside or outside the classroom, please consult your instructor.

VII. Measure of Student Performance

Your final average will be based upon unit tests, formative assignments, and a final exam.

Unit tests: These tests will be given in class. Our plan is for 5 unit tests this semester. However, unforeseen circumstances, such as power outages, inclement weather, or public health emergencies, might necessitate a decrease in the number of unit tests.

Formative assignments: At the discretion of the instructor, these assignments might come in the form of quizzes (either in-class or take-home), group work, or graded homework.

Final exam: The final exam will cover the entire semester. There will be no exemptions from the final exam.

Weights: The average of the unit tests and the formative assignments—where the average of the formative assignments has the weight of one unit test—counts 75% of your final average, and the final exam counts 25%.

GCSC Grading Scale: The following scale is used to convert the numerical average to a letter grade: A(100-90), B(89-80), C(79-70), D(69-60), and F(59-0).

VIII. Details Are Subject to Change
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The syllabus found here is subject to change. The instructor will make the most current syllabus available to students by the first day of class.