

MAC 2311: Calculus with Analytic Geometry I

Online Course

I. Semester Information

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

Credit Hours/Contact Hours: 4 Credit Hours

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 and Year: Spring 2023

II. Contact Information

Instructor: Keith Owens, Professor of Mathematics, Gulf Coast State College

Instructor Credentials:

A.A., Gulf Coast Community College

B.S., University of Florida

M.S., Mathematical Sciences, University of West Florida

Instructor Phone: (850) 769-1551 ext 5877

Instructor Email: kowens@gulfcoast.edu

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, 7th Edition*, Ron Larson and Bruce Edwards, Cengage, © 2019, ISBN 978-1-337-55251-6 or 978-1-337-55303-2

Graphing Calculator: A graphing calculator is required. A TI-83 or TI-84 model is recommended. (The TI-84-Plus will be demonstrated on the course videos.) 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.

Internet and Printer Access: Students must have access to an internet-connected computer and to a printer. (Computers are available for student use in the college library. If needed, items may be printed in the college library on a pay-for-print basis.)

IV. Curriculum

Course Description: Topics included are limits and continuity; differentiation of logarithmic, exponential, trigonometric, and rational functions; related rates; hyperbolic functions; analysis of functions and their graphs; applications of the derivative; Newton's method; Rolle's Theorem; Mean-Value Theorem; L'Hopital's Rule; and integration. 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: Rather than attending live lectures, students will view on-line course videos. Problems will be assigned from the textbook and from Canvas. Access to an internet-connected computer is required. Students should check Canvas frequently (almost daily) for e-mails and announcements. Although course content will be delivered on-line, **the unit tests and the final exam will be administered in an on-campus, proctored environment.**

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:

The student will:

- Demonstrate a basic understanding of functions
- Analyze and evaluate limits
- Demonstrate an understanding of continuity of functions
- Find derivatives of various types of functions
- Demonstrate understanding of the Mean Value Theorem and Intermediate Value Theorem
- Solve application problems involving derivatives
- Exhibit an elementary understanding of integration

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. I am available in-office or via Zoom (or similar software). 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: Email is the most efficient way to reach me. 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 (Canvas) Usage: Canvas will contain the majority of the course content, including the course videos, notetaking guides, homework solutions, keys, and test reviews—basically everything except the textbook. Assignment due dates and testing window dates will be posted also. Students will access and submit formative assignments through Canvas. 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 is 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 on pages 36-38 in the GCSC Student Handbook <https://www.gulfcoast.edu/current-students/student-handbooks/2021-2022-student-handbook.pdf>.

Attendance and Withdrawal Policies:

1. Attendance Policy. As this is an on-line course, there is no daily attendance policy. However, students must organize their time so that they are keeping up with the videos and homework. Graded formative assignments must be submitted by the published due dates, and proctored tests must be taken on time.
2. No shows. Students who submit no assignments 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. Students must log onto Lighthouse, go to the student tab, select Admissions Forms, then select Student Withdrawal Form, before the deadline. 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. The instructor reserves the right to withdraw students who miss Test 2 without permission, since it will be assumed that these students have stopped participating in the course. (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.)

- 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.

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 a proctored, on-campus environment. Students living locally are expected to test either at the Panama City campus Testing Center or at the Port St. Joe Gulf-Franklin campus. Proctoring in a different location is subject to the approval of the Testing Center and the instructor and must be requested at the beginning of the semester. (Please note that off-campus proctors might charge fees, and you would be responsible for those fees.) 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: These assessments are not proctored, but students are expected to do their own work. Students will submit these assignments via Canvas. Formative assignments, at the discretion of the instructor, may include quizzes or graded homework.

Final exam: The final exam will cover the entire semester. There will be no exemptions from the final exam. The final exam must be proctored, as described for the unit tests.

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

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.