

Instructor: S. O'Donnell
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CRN: 14859
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I. COURSE DESCRIPTION:

MAC 1140: Pre-Calculus Algebra, 3 lecture hours, and 3 credit hours.

Prerequisite: "C" or higher in MAC 1105. Placement scores for the following tests; ACT requires a score of 23 – 27; SAT requires 480 – 509; PERT requires a score of 138 – 150 and 43 – 92 (CLM).

Topics included are properties and graphs of polynomial and rational functions, polynomial and rational inequalities, properties and graphs of exponential and logarithmic functions, piecewise defined functions, conic sections, matrices and determinants, sequences and series, mathematical induction, binomial theorem, and applications.

II. TEXT: *Precalculus*, Bedford, Brinegar, 2017, Gulf Coast State College

OTHER MATERIALS: A graphing calculator is required. Ti-83 or Ti-84

III. STUDENT LEARNING OUTCOMES:

1. Students will factor and simplify polynomial expressions with fractional exponents and negative exponents with 70% or higher accuracy.
2. Students will use the polynomial theorems to determine the possible and real zeros of the polynomial function with 70% or higher accuracy.
3. Given the zeros, students will find a polynomial with 70% or higher accuracy.
4. Students will evaluate and graph piece-wise, polynomial, rational, exponential, and logarithmic functions and conic sections with 70% or higher accuracy.
5. Students will solve and illustrate the graphs of polynomial and rational inequalities with 70% or higher accuracy.
6. Students will solve real world applications using polynomials, rationals, exponentials, logarithms, conic sections, and sequences and series with 70% or higher accuracy.
7. Students will use the properties of logarithms to expand and condense logarithmic expressions with 70% or higher accuracy.
8. Students will use matrices to solve systems of equations with 70% or higher accuracy.
9. Students will find the partial fraction decomposition of a rational expression with 70% or higher accuracy.
10. Students will use mathematical induction to prove a given statement or inequality with 70% or higher accuracy.
11. Students will list the first 5 terms of arithmetic, geometric, and recursively defined sequences and find the general term of a given sequence with 70% or higher accuracy.
12. Students will evaluate a series and write a given series in summation notation including a binomial expression using the Binomial Theorem with 70% or higher accuracy.

IV. COURSE OUTLINE: See the attached daily class schedule for a detailed outline.

V. ATTENDANCE-WITHDRAWAL-GRADE FORGIVENESS-ATTEMPS:

A. Attendance Policy:

Students who are absent from class more than one eighth of a course without the instructor's permission shall be withdrawn. Students who never attend during the first two weeks of class shall be classified as "no show" and withdrawn from the course.

B. 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 withdrawals as grades. There are two kinds of withdrawals, student and administrative. Please see the manual of policy for detailed withdrawal policies.

1. Student Withdrawal

Student completes a withdrawal form and submits the form to the Office of Admissions and Records before the withdraw deadline.

2. Administrative Withdrawal

This withdrawal is done online by an instructor for excess absences

Withdrawals initiated prior to midterm will be recorded as "W". There are no withdrawals initiated after the deadline. After this date, students will receive a grade.

C. Grade Forgiveness:

A student may repeat a course when a grade of "D" or "F" has been earned. The last grade counts. However, universities may count forgiven grades in calculating the grade point average. Forgiven grades may also be calculated in determining financial aid eligibility.

D. Attempts:

This course, which is a college credit course, may be attempted three times. On the third attempt, 100% of the full cost of instruction will be charged. Students with major extenuating circumstances may submit a letter of appeal stating the circumstances to the dean of students. All grades from the third and subsequent attempts will be calculated in the grade point average

VI. HOMEWORK: Homework will be assigned daily. The daily completion of all homework is essential for learning the material in the course and as preparation for the unit tests and final exam.

VII. TESTING:

There will be five unit tests given. The unit tests will be announced in advance, will count equally, and will be returned. The final exam **will not** be returned. There are **no exemptions** from the final exam. At the option of the instructor, "pop-quizzes" may be given almost daily and/or group activities and/or a homework notebook. The average of the daily grades will count as an additional unit test. Therefore, the number of grades counted as a unit test may be six. The student is expected to keep up daily with the assigned work.

VIII. GRADING:

The average of the five or six unit tests will count 75% of your grade. A comprehensive departmental final exam (no exemptions) will count 25% of your grade. The grading scale is A (100-90), B (89-80), C (79-70), D (69-60), and F (59-0).

IX. MAKE UP WORK:

No daily quizzes will be made up. If you miss a unit test and you have a valid excuse, your final exam grade may count as the first missing unit test grade. If you miss more than one unit test, you may take a makeup test at the discretion of the instructor. If you have not missed any unit tests, the instructor has the option of allowing the final exam to be used to replace the lowest unit test grade. The quiz average will not be replaced.

X. OTHER:

A. Studying requires discipline, tenacity, and hard work. View this course as a job. Attendance is absolutely necessary, as well as attentiveness to detail and alertness. You must earn a "C" in this course in order to advance to MAC 2311, Calculus with Analytic Geometry I.

B. The Pay4Print system is installed in all computer labs and in the library. The logon to the system can be found by going to www.gulfcoast.edu and clicking on Student Resources and then on Pay4Print. The logon will be the same logon ID as the student email, using only the initials and randomly generated number. Students will be required to add money to their print accounts before they are able to print. Money can be added to student print accounts by credit or debit card with a minimum of \$5.00 or at patron kiosks or bill acceptors.

C. Available Help Outside of Class:

1. Your Instructor

Full time faculty has posted ten (10) hours per week on their schedule. Their offices are located on the second floor of the Student Union West Building. Adjunct faculty is available for assistance 30 minutes before or after class. Students having difficulty are strongly encouraged to see the instructor for additional help.

2. Student Learning Outcomes

Student Learning Outcomes are available upon request. These outcomes are posted on the Mathematics' Web Site.

3. Course Videos

Course Videos on this course are available online in Canvas.

4. Other

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 Services. 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.

XI. Class Recording

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 <https://www.gulfcoast.edu/current-students/student-handbooks/2021-2022-student-handbook.pdf>. (Page 36-38 is related to HB233)

If you have any questions or concerns please feel free to e-mail: odonnsp@bay.k12.fl.us