MAC1140 Precalculus Algebra
Summer B 2024

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Office Hours:	TBD
Lecture Time:	MTWRF Period 3 (11:00AM-12:15PM)
Lecture Location:	FAC 0127

Prerequisites MAC1140 does not have any prerequisites.

Course Description This course will cover all standard aspects of precalculus except for trigonometry. This includes: terminology, variables, general functions, basic modeling of real world examples, translations, transformations, polynomials, radical functions, exponential functions, logarithmic functions, piecewise functions, and rational functions.

A minimum grade of C is required for general education credit.

Course Objectives The goal of this course is to provide the mechanical and conceptual tools necessary to continue on to either MAC2233 "Survey of Calculus 1" or MAC2311 "Calculus 1" (note that the latter also requires a trigonometry course, e.g. MAC1114; alternatively one can take the combined Precalculus algebra and trigonometry class MAC1147 instead of taking MAC1140 and MAC1114).

E-Learning Canvas E-learning Canvas, a UF course management system, is located at https://elearning.ufl.edu. Use your Gatorlink username and password to login. All course information, including your grade, course homepage, syllabus, schedule, lecture notes, office hours, test locations, mail tool, discussion forum, free help information, etc. can be accessed from this site. You are responsible for verifying that your grades are accurate. There is no grade dispute at the end of the semester (see below for the One Week Policy).

Course Materials There are no required materials for this course; specifically there is no required textbook, clicker, or online homework code that you must purchase for this course.

We will utilize a free online homework system known as Xronos. This work is supported by the Office of the Provost and the College of Liberal Arts and Sciences. The platform is accessible through the Canvas site via the "assignments" tab. More details will be explained in class.

For extra review and practice, I recommend utilizing the free online OpenStax Precalculus textbook, found here: https://openstax.org/details/books/precalculus-2e. Chapters 1 through 4 of this book contain roughly the same material as our course, along with many practice problems.

Calculators Calculators are **NOT** permitted on quizzes and exams. This means you need to be able to do basic arithmetic (addition, subtraction, multiplication, division, fractions, etc.), along with the types of problems we will learn about, on paper. Please avoid using a calculator on homework as it will not help you prepare for the exams. All problems and assignments in this course are doable without a calculator.

That said, calculators can still be useful tools for checking your answers or visualizing concepts. In particular, for visualizing graphs of functions, I recommend the free online graphing calculator Desmos: https://www.desmos.com/calculator.

Cell Phones

Cell phones and similar devices must be turned off (not on vibrate) before coming to class. Use of a cell phone during a test or quiz will be considered contact with another person and will be viewed as a form of academic dishonesty because I cannot be assured in such a circumstance that you have not taken a picture of the test/quiz or sent a text message to someone. As a result, using a cell phone during a test or quiz for any reason will result in an automatic grade of zero and possible disciplinary action. Wait until after you have left the room and are finished with the test/quiz to use it.

General Education Objectives

Courses in mathematics provide instruction in computational strategies in fundamental mathematics including at least one of the following: solving equations and inequalities, logic, statistics, algebra, trigonometry, inductive and deductive reasoning. These courses include reasoning in abstract mathematical systems, formulating mathematical models and arguments, using mathematical models to solve problems and applying mathematical concepts effectively to real-world situations.

This course provides the fundamentals in solving equations, inequalities, and manipulating various functional types using primarily deductive logic techniques. It also covers the basics of mathematical modeling and how to apply mathematical concepts to real-world situations.

General Education Student Learning Outcomes (SLOs)

After successful completion of this course students will have demonstrated competency in the following Student Learning Outcomes (SLOs):

• **Content:** *Students demonstrate competence in the terminology, concepts, theories, and methodologies used within the discipline.* Students will learn critical terminology, concepts, methods, and theories during lecture. This will include terminology used within the discipline to communicate mathematical ideas efficiently and accurately. They will also learn the concepts and methodologies used to solve algebraic systems modeled by a variety of function types, as well as some core theorems appropriate to the course level. Students will demonstrate their competencies via homework, quizzes, and exams.

• **Communication:** *Students communicate knowledge, ideas, and reasoning clearly and effectively in written and oral forms appropriate to the discipline.* Throughout this course students will communicate mathematical ideas verbally in class and as well as through writing on quizzes and exams.

• **Critical Thinking:** *Students analyze information carefully and logically from multiple perspectives, using discipline-specific methods, and develop reasoned solutions to problems.* Students will apply their knowledge to solve problems concerning topics that include, but are not limited to Students are required to develop and manipulate their own models from descriptions of real world events or problem statements, which may include extraneous information or even incomplete information. Students must then propose what information would be necessary to complete the model and/or solve for the desired information.

Class Participation	You will receive a class participation grade for each day of class, excluding exam days. There are two points for each class participation grade: one for attendance, one for completing an exit ticket (explained below). Your lowest 4 class participation grades will be dropped. Do not squander your drops. If you miss 4 classes for silly reasons, you will not have any drops left in the event that you get sick later on.

Attendance: You will receive the full point for attendance if you show up to class on time and stay until the end of class. You will only receive half a point if you miss more than 15 minutes of class and you will receive zero points if you miss more than half of the class.

Exit Ticket: The exit ticket consists of a problem (or possibly a few very short problems) from the material we learned in class that day, as well as an optional space to provide course feedback. These will be administered approximately 5 minutes before the end of class. You must work alone, but you may use your notes. You will earn one point for solving the exit ticket problem, including showing your work. Your solution does not need to be correct, but you must make a genuine effort (this means, for example, that your solution cannot be entirely irrelevant to the problem and should indicate that you were paying attention to the concepts discussed in class).

Exit Ticket Bonus: If your exit ticket solution (including your work) is correct, you will receive an extra .25 points on your class participation grade for that day. This may not seem like a lot, but the points will add up if you get the problems correct every day!

Class Participation Bonus: Students who participate in solving problems in class may earn some bonus points added to their overall class participation grade. When asking for volunteers to solve problems, I will prioritize students who have not earned this type of bonus yet. For fairness, at most 3 bonus points of this type may be earned per student throughout the semester. I will be sure to offer enough opportunities that all students could theoretically earn the maximum bonus in this category.

Xronos Homework	There will be approximately one Xronos homework assignment per lecture and you will have 3 days to complete each assignment after it is posted (I recommend completing it sooner to keep up with the material and to account for any unexpected technological problems). There are no extensions and homework submitted after the due date will not be accepted under any circumstances, including personal computer issues. If you have trouble accessing the online homework, please contact the instructor. Your lowest 2 homework grades will be dropped.
Quizzes	There will be six quizzes throughout the semester. The dates of the quizzes will be available on Canvas.

Quizzes will be worth 15 points each and you will have 10-20 minutes to complete them, depending on how much material is covered by the quiz. Quizzes will start **at the beginning of class.** In general, each quiz covers all material that we went over since the previous quiz. We will most likely not have time for extensive quiz review sessions, so you must prepare on your own. I highly recommend completing all homework prior to each quiz, even if the due date falls after the quiz.

Quizzes will primarily be free response and you will be graded on your work (when applicable) in addition to your answers. Partial credit will be given whenever possible. Your lowest quiz grade will be dropped.

Exams	There will be two exams, a Midterm and a Final. Exams are in class on the following dates:

Midterm Exam: 07/23/2024

Final Exam: 08/9/2024

Exams will primarily be free response and you will be graded on your work in addition to your answers. Partial credit will be given whenever possible. No exam grades will be dropped. The final exam will be cumulative.

Test Corrections: After midterm exams are graded, you will have an opportunity to receive some credit back for the points you lost. To complete test corrections, you must write a correct solution with correct work for each problem where you lost points, along with a brief explanation of what went wrong in your original solution. If your new solutions, work, and explanations are sufficient, you will receive half credit back. For example, if you lost 30 points on the exam and completed all of your test corrections correctly, you will receive 15 points back. As with the original exam, partial credit will be given whenever possible.

Test corrections are to be submitted in class, together with your original midterm so that I can compare your original solutions to your new ones. They are due the Monday after the midterm. Test corrections are **optional** but highly recommended. They will both boost your score and help you learn from your mistakes.

Due to the limited amount of time between the final exam and the day I need to post course grades, test corrections will most likely **not** be offered for the final exam.

Final Exam Bonus: The final exam will have a small number of extra points built in to serve as a bonus. There are no separate bonus problems on exams.

Grading

Your course grade will be calculated as follows:

Class Participation: 10%
Homework: 20%
Quizzes: 20%
Midterm Exam: 25%
Final Exam: 25%

Your final letter grade is based on the following grading scale:

A: 93%
A-: 90%
B+: 87%
B: 83%
B-: 80%
C+: 77%
C: 73%
C-: 70%
D+: 67%
D: 63%
D-: 60%
E: below 60%

There is **no curve** and **final grades will not be rounded.** For example, a 72.999 will still be a C- and a 92.999 will still be an A-. No exceptions. Furthermore, there will be no extra credit or bonus points other than those offered to the entire class. If you want a particular grade, you need to earn it by putting in the necessary effort throughout the semester.

UF grading policies	For a complete explanation of current policies for assigning grade points, refer to the UF undergraduate catalog: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/
One Week Policy	Once you receive a graded assignment back, you have one week to contest the grade and initiate any grade disputes. Once this one week passes, there are no further disputes.
Incomplete Policy	A grade of I (incomplete) will be considered only if you meet the Math Department criteria which is found at https://math.ufl.edu. If you meet the criteria you must see the instructor before the beginning of finals week to be considered for an I. A grade of I only allows you to make up your incomplete work. You cannot redo any previously completed work.
Make-up Policy	There are no make-ups for homework. Make-up quizzes and tests will only be given in cases of documented illness or for students participating in official University events. The UF attendance policy is found here: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/
	If you miss an exam due to illness or other extenuating circumstances you must submit an excuse note within a week of the exam. For a UF sponsored event, you must e-mail the instructor at least ONE WEEK PRIOR to the event and present documentation. UF's excuse note policy can be found here: https://shcc.ufl.edu/forms-records/excuse-notes/
E-mail	All communication between student and instructor and between students should be respectful and professional. All official class communications will be sent only to the ufl.edu addresses. Students are responsible for acquiring email accounts, checking their accounts regularly, and knowing any class information sent to their ufl.edu account. Please be sure to sign your name to your e-mails.
Academic Honesty Guidelines	All students are required to abide by the Academic Honesty Guidelines which have been accepted by the University. The academic community of students and faculty at the University of Florida strives to develop, sustain, and protect an environment of honesty, trust, and respect. Students are expected to pursue knowledge with integrity. Exhibiting honesty in academic pursuits and reporting violations of the Academic Honesty Guidelines will encourage others to act with integrity. Violations of the Academic Honesty Guidelines shall result in judicial action and a student being subject to the sanctions in paragraph XIV of the Student Code of Conduct. The conduct set forth hereinafter constitutes a violation of the Academic Honesty Guidelines (University of Florida Rule 6C1-4.017).
	The Mathematics Department expects you to follow the Student Honor Code. We are bound by university policy to report any instance of suspected cheating to the proper authorities. You may find the Student Honor Code and read more about student rights and responsibilities concerning academic honesty at the link www.dso.ufl.edu/sccr/.

In-Class Recording	Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under the Student Conduct Code.

Evaluations	Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.
Students with Learning Disabilities	Students requesting class and exam accommodations must first register with the Dean of Students Office Disability Resource Center (DRC), https://disability.ufl.edu/get-started/. That office will provide a documentation letter via email to the course coordinator. This must be done as early as possible in the semester, at least one week before the first exam, so there is adequate time to make proper accommodations.

Free Help   In addition to attending your discussion section regularly and visiting your discussion leader, lecture, or the course coordinator, during their office hours, the following aids are available.

• The Math Help Center in Little 215 is open for drop-in assistance with homework Monday through Friday from 9:30 to 4:00. It is staffed by mathematics graduate students and undergraduate assistants. Please note that this space is not designed for intense one-on-one tutoring, but rather as a resource for quick questions and explanations. You should not expect the staff to help you if you have not at least begun your homework and have specific questions. Moreover, they absolutely will not assist you with quizzes or any other such work.

• The Teaching Center Math Lab, located in SE Broward Hall, is a tutorial service staffed by trained math and science students to provide help with your calculus questions and homework. Tutors will be glad to provide guidance on specific problems after you have attempted them on your own. You may want to attend different hours to find tutors with whom you feel most comfortable. You can also request free one-on-one tutoring.
The math lab also offers a more structured tutoring program for MAC 2312, called supplemental instruction. A tutor, assigned specifically to MAC 2312, provides weekly help sessions. More details will be provided in lecture. In addition, the Broward teaching center tutors hold reviews on the evenings before each exam. They also provide videos of review and sample test problems. Check the webpage, teachingcenter.ufl.edu, for a map of the location, tutoring hours, and test review dates and locations. All students are encouraged to use the teaching center.

• Textbooks and solutions manuals are located at reserve desks at Marston Science Library.

• Private Tutors: If after availing yourself of these aids, you feel you need more help, you may obtain a list of qualified tutors for hire at http://math.ufl.edu. Search "tutors".

Tentative Schedule   Below is a tentative schedule of the topics we will cover. Adjustments will be made according to student needs or the length of topics.

Week 1: Introduction to Mathematical Reasoning, Introduction to Functions; Domains, Range, Codomains, Notation, and Composition.

Week 2: Introduction to Graphing, Translations and Transformations of functions, Points of Interest; Zeroes, Intercepts. Algebraic Manipulation of Functions, Inverse Functions.

Week 3: Polynomials; Introduction and definitions, Factoring Method, Synthetic and Long Division.

Week 4: Complex Numbers, Radical Functions.

Week 5: Exponential Functions, Logarithmic Functions, Piecewise Functions

Week 6: Absolute Value Functions, Rational Functions.

Note: Information in this syllabus is subject to change. Any changes will be clearly announced in class, on canvas, or through e-mail.