

MAC1147 - Precalculus With Trigonometry

Spring 2023 Online Syllabus

The information in this syllabus is preliminary and subject to change before the term begins.

Contact Information

The course home page is located in Canvas. Log in to Canvas at [elearning.ufl.edu](https://learning.ufl.edu).

The Inbox in Canvas is the preferred method for communication for the class.

Coordinator

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Office Hours: TBA Zoom, TBA LIT 313

Introduction

Course Content

College algebra, functions, coordinate geometry, exponential and logarithmic functions, and trigonometry. This **fast-paced course** is designed as a review to prepare you for calculus. If you prefer, you can take it over two semesters by taking MAC1140 Precalculus Algebra and then taking MAC1114 Trigonometry. You have until the end of drop/add (first five days of the semester) to change your schedule.

Prerequisite, Course Sequence, and Credit

This course covers 4 credit hours of [General Education Mathematics \(M\)](#) requirements. A minimum score of 50% on the ALEKS exam or prior MAC1147 credit (or higher) is required. This course assumes prior knowledge of intermediate algebra (Algebra 2) and trigonometry and the ability to do arithmetic without a calculator. This course is designed for students who intend to take MAC2311. If your goal is to take MAC2233, then you should consider talking to your advisor about taking MAC1140 instead of this course since there is no trigonometry requirement for MAC2233.

If you are taking this course for general education credit or the pure math portion of the Math requirement, but you do not need precalculus for your major or as preparation for calculus, you should consider taking MGF 1106, MGF 1107, or MAC1105. For more information on math courses and math advisors go to www.math.ufl.edu.

A minimum grade of C (not C-) in MAC1147 satisfies four hours of the general education requirement and also satisfies the pure math portion of the state Writing/Math requirement. Note: You can receive at most four credits for taking both MAC1147, and MAC1140 or MAC1114, and at most five credit hours for taking MAC1147, MAC1140, and MAC1114. After you successfully complete this course (C or better) you can advance to MAC2311 Calculus 1, or into MAC2233 Survey of Calculus.

Required Materials

The course text will be made available for free in Canvas. There is no textbook purchase required.

- [Precalculus](#), by Abramson et al. Published by OpenStax
- Supplemental notes by Carmichael

E-Learning and Canvas

Canvas is the central website for our class. To access it go to elearning.ufl.edu and log in with your Gatorlink credentials. All, class announcements, assignments, lecture outlines, and other information will be posted there. You are responsible for verifying that your grades are accurate.

Your grades for assignments will also be posted on Canvas. I am always happy to discuss the content of an assignment, but grade issues must be dealt with in a timely manner. **You have one week after a score has been posted to contact your instructor/TA if you believe there has been a grading or a recording error.** Grades are not eligible to be changed after that.

Lectures

Lecture days are indicated on the calendar. Live lectures will be streamed, and prerecorded lectures are available in Canvas.

Calculator Policy

A basic calculator will be provided on exams. No other calculator or electronic device is allowed on exams. A calculator may sometimes be needed to complete homework questions.

People Who Can Help

- **Your Teaching Assistant (TA)** in the mathematics department. Your TA will hold office hours each week. You are encouraged to come and ask questions!
- **Professor Carmichael** during office hours: TBA
- **Other MAC1147 TAs** (See Canvas for office hours)
- Academic Resources offers free online tutoring on weekdays. Go to www.teachingcenter.ufl.edu to find the hours. You can also request free one-on-one tutoring.
- Math department TA's hold drop-in hours through the Teaching Center every day. You can check the schedule at teachingcenter.ufl.edu/tutoring/tutoring-schedule/
- For help resolving technical issues (computer problems, Gatorlink, etc.) contact the UF Computing Help Desk at helpdesk.ufl.edu, 352-392-HELP.
- Your well-being is important to the University of Florida. The [UMatter, WeCare](#) initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Success

Success in MAC1147 comes from your effort and attitude. Keeping up with the material is critical. Research has shown that it is more effective to do a small amount of math every day rather than a large amount in a single day. Studies have also shown that the most important factor for success in math is class attendance and

participation. Students who come to class succeed much more often than those who do not. That said, most of the learning you will do in this course will come from the work you do. Mathematics is not a spectator sport. Watching someone solve a problem is very different from being able to solve it yourself. In order to succeed you must be willing to put in the time and effort to answer questions independently.

Exams

There will be four midterm exams as well as a cumulative final exam. Exams will be done in Canvas and will be similar in format to the weekly quizzes.

- Exams will be open for a 36-hour window as indicated on the class schedule.
- You may take two attempts at each midterm exam during its window. The best of your scores will count.
- You may take only one attempt at the final exam.
- Exams will be monitored using the HonorLock system. In order to use HonorLock you will need a web cam, the Google Chrome browser, and an isolated space where you can take your test.
- You are responsible for material covered in the lectures, including example problems from lectures, all assigned homework problems, and all review material.
- You should bring to each test **only** your UF Gator One card, a pen or pencil, and blank scratch paper.
- A basic calculator will be provided. All electronic devices, including phones, must be put away.

Grading

Course Grade

Here is a breakdown of the items that will determine your grade in this course:

| Item | Grade % | Comments |
|-----------------------|------------|--|
| Homework | 14% | Lowest two scores dropped. |
| Quizzes | 14% | Lowest two scores dropped. |
| Lecture Participation | 7% | No scores dropped. |
| Exams | 50% | Four midterm exams. Two attempts on each exam. |
| Final Exam | 15% | Cumulative final exam. One attempt only. |
| Extra Credit | Up to 1.5% | |

Note: Some scores may not be added to Canvas until the end of the semester.

Your course letter grade is based on the overall percentage you earn according to the items above. Final percent scores will **not** be rounded.

| | | | | | |
|----|-----|----|-----|----|-----------|
| A | 90% | B- | 77% | D+ | 64% |
| A- | 87% | C+ | 74% | D | 60% |
| B+ | 84% | C | 70% | D- | 57% |
| B | 80% | C- | 67% | E | Below 57% |

Note that a grade of C- does **not** give Gordon Rule or General Education credit. A grade of C or better is required to advance to the next course.

For information on dropping courses and withdrawals go to [this website](#)

For information about UF grades and grading policies go to [this website](#)

Lecture Participation

Lectures will be opened in Canvas on the days specified by the course calendar. 'Attendance' is required and will be taken in the form of questions asked periodically during the lecture. These will count towards your grade, and you must complete them to unlock the homework assignments.

Homework

Each lecture has a corresponding homework assignment, which will usually be due two days after the lecture. Finishing these assignments is the most important activity you will do. The practice they provide will solidify the concepts introduced in the lecture.

Quizzes

There will be a quiz each week, usually on Monday. It will cover lectures from the previous week. Quizzes are designed to be done multiple times and will present different questions for each attempt. The best of your attempts is the one that will count towards your grade. You should treat the quizzes as practice for the exams.

Extra Credit

Each lecture/homework has a discussion board in Canvas. You may earn a bonus of up to 1.5% on your course grade through participation in these discussions. Participation includes:

- Asking a coherent mathematical question including details of your own attempts. (So "How do you do question 12?" doesn't count)
- Providing a substantive and understandable solution to a fellow student's question. (So "The answer is 8." doesn't count)

Make-up Policies

All makeup work must be completed before the final exam.

- **Exams** - If you have a conflict due to a UF sponsored event or an assembly exam in another course with a higher course number, you must bring documentation of it to the course coordinator at least one week (otherwise 5% penalty) before the exam to sign up for the make-up, which will be given soon after the test date or at the end of the semester.
If you miss for any other valid reason you must notify the course coordinator within a week of the exam (otherwise 5% penalty). I cannot make a full list of valid reasons to miss an exam, but a valid reason is something that is unavoidable, not an activity you can choose to partake in or not. Makeups will only be allowed if appropriate documentation is provided.
- **Final Exam** - There is a 10% penalty for missing the final due to negligence.
- **Homework/Quiz** – At the beginning of the semester you are assigned 20 Late Passes. You may use a Late Pass to extend a homework or quiz deadline by 24 hours. You may extend a deadline up to two days at a cost of two Late Passes.
- **Extra Credit** - No makeups.
- **Absences and Make-up Work** - Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at [this website](#).

Incomplete/Concerns/Complaints

- **Incomplete** - A grade of I (incomplete) will be considered only if you meet the Math Department criteria which are found at www.math.ufl.edu. If you meet the criteria you must contact your coordinator before finals week to be considered for an I. An I only allows you to make up your incomplete work, not redo your work.
- **Concerns/Complaints** - If you have concerns/complaints about the course you may voice your concerns to the course coordinator, the Mathematics Department Associate Chair, and then the University Ombuds at ombuds.ufl.edu.

Instructor Evaluation

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 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 ufl.bluera.com/ufl. Summaries of course evaluation results are available to students at gatorevals.aa.ufl.edu/public-results.

Additional Information

Students With Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting disability.ufl.edu/students/get-started. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Academic Honesty

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." [The Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Class Recordings

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. 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.

Schedule

| | Monday | Tues | Wednesday | Thurs | Friday |
|----------------|--|------|--|---------------|-------------------------------------|
| Jan 9 - 13 | Lecture 1 Introduction | | Lecture 2 Exponents | | Lecture 3 Polynomial Expressions |
| Jan 16 - 20 | Holiday MLK Jr Day | | Lecture 4 Cartesian Coordinates | | Lecture 5 Functions |
| Jan 23 - 27 | Lecture 6 Graphs of Functions | | Lecture 7 Combining Functions | | Lecture 8 Transformations |
| Jan 30 - Feb 3 | Lecture 9 Inverses | | Exam Review | | Lecture 10 Exam 1 |
| Feb 6 - 10 | Lecture 11 Quadratic Functions | | Lecture 12 Polynomial Functions | | Lecture 13 Complex Numbers |
| Feb 13 - 17 | Lecture 14 Zeros of Polynomials | | Lecture 15 Rational Expressions | | Lecture 16 Rational Functions |
| Feb 20 - 24 | Lecture 17 Linear Inequalities | | Lecture 18 Nonlinear Inequalities | | Lecture 19 Systems of Equations |
| Feb 27 - Mar 3 | Exam Review | | Lecture 20 Exponential Functions | Exam 2 | Lecture 21 More Exp Functions |
| Mar 6 - 10 | Lecture 22 Logarithmic Functions | | Lecture 23 Properties of Logarithms | | Lecture 24 Exp and Log Equations |
| Mar 13 - 17 | Spring Break | | Spring Break | | Spring Break |
| Mar 20 - 24 | Lecture 25 Exp and Log Modeling | | Lecture 26 Angles | | Lecture 27 Unit Circle |
| Mar 27 - 31 | Exam Review | | Lecture 28 Exam 3 | | Lecture 29 Graphs of Sin and Cos |
| Apr 3 - 7 | Lecture 30 Other Trig Graphs | | Lecture 31 Inverse Trig Functions | | Lecture 32 Applications |
| Apr 10 - 14 | Lecture 33 Using Fundamental Identities | | Lecture 34 Trig Equations | | Lecture 35 Laws of Sin and Cos |
| Apr 17 - 21 | Exam Review | | Lecture 36 Exam 4 | | Lecture 37 Double/Half Formulas |
| Apr 24 - 28 | Lecture 38 Euler's Formula | | Review | | |
| Sat Apr 29 | Final Exam | | | | |