

1 Course Description

MAC 2312 is the second in the three-semester sequence MAC 2311, MAC 2312, MAC 2313 covering the basic calculus. Intended topics will include integration techniques, infinite sequences and series, polar coordinate and application of definite integrals. A minimum grade of C (not C-) in MAC 2312 satisfies four credits of the university General Education Math requirement.

1.1 Prerequisites

MAC2312 assumes that you have essential precalculus skills (both algebra and trigonometry) necessary to succeed in calculus as well as the basic fundamentals learned in the prior course MAC2311. Students should be able to do arithmetic without a calculator. To enroll in MAC2312, you must have earned a grade of C or better in MAC2311 (or its equivalent), or otherwise earned calculus credit (such as through an exam or earlier coursework). MAC2312 begins with the integration chapter. You should already be competent in integrating simple functions such as power functions, exponential, sine and cosine functions, and the use of simple u-subst, etc. We strongly recommend that students who are having difficulty with these core calculus concepts to consider reviewing MAC2311 (or take the course if you have not already done so). You may switch courses at <https://student.ufl.edu/> during the drop-add period.

1.2 Course Materials

There are no required textbooks for this course. For any that wish to study from, or reference, a text book we suggest an online textbook, found at <http://bit.ly/2vK7UTB> although we will not require it's use. Also, in this course we will utilize an in-house, UF-made online homework system. This work is supported by the Office of the Provost and the College of Liberal Arts and Sciences. The platform is called Xronos and is accessible through the Canvas site. More details will be given in class.

1.3 Online Resources

E-learning Canvas, a UF course management system, is located at elearning.ufl.edu. Use your Gatorlink username and password to login. All course information including your grade, course homepage, syllabus, lecture videos, 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).

1.4 One Week Policy

Please be aware of the **One Week Policy**: Once you receive a graded paper back, you have **one week** to contest the grade and initiate any grade disputes. Once this one week passes, **there are no further disputes**. In particular, once the end of the semester nears, you *cannot* start disputing, say, grades from the first week or two.

1.5 Calculators

A graphing calculator and Wolframalpha are useful as study and learning tools when used appropriately, **but they are not essential**. I also recommend the online graphing calculator Desmos (www.desmos.com), and the app GeoGebra (www.geogebra.org) to help you as you learn the material, but calculus is a collection of ideas that are not mastered through calculator skills. **No calculators are allowed on quizzes/assessments or on the exams.**

1.6 Lectures

This class will take a different form than you may be used to. I will not lecture for the whole period, if at all. You will be responsible for watching pre-recorded lectures online at the course site in Canvas **BEFORE** coming to class. We will spend most of our class time working on problems and exploring the concepts of

the videos due the day before. This means you cannot participate, or learn much, in class if you have not watched the video prior to the class. Come to class ready to participate.

2 Course Assignments and Grading

2.1 Online Homework

In this course we will utilize an in-house, UF-made online homework system developed by the math department at UF. This platform, called Xronos, is free of charge and will be explained during class. Online homework assignments will be posted regularly and must be completed in a timely fashion. These will count up to a maximum of 100 points, but the total number of points available is higher to offset credit lost due to technical difficulties or a missed assignment. **There are no makeups or drops for online homework since you have the whole semester to complete each assignment. Do not try to complete them all at the end! Be diligent and do them while you learn the material.**

There are some notes to keep in mind about how Xronos works:

- You **MUST** access Xronos via Canvas **every single time you do your homework**. Do not bookmark the page, do not save the page, do not access Xronos directly via a link – you **MUST** go through Canvas **EVERY TIME**. If you do not – you will not receive credit for the problems you solve. This cannot be stressed enough.
- For each standard (topic), there will be two assignments. These will be represented by tiles in Xronos. Within a given assignment, there will be a collection of homework problems. As you solve them, a progress bar on the assignments tile will start filling in with green. Your goal is to solve all of the problems and thus get full green bars on all assignments. Your homework grade in Canvas will be weighed out of 100 points and the number of points is determined by the percentage of problems you've solved.
- In the spirit of practice, Xronos has an option to 'Try Another One'. This option is located at the top of a given assignment's page. When you click this, **every single problem in that assignment** will be replaced by a new (but similar) problem for you to try. Thus, if a given assignment seems to only have five problems, you actually have access to *hundreds* of similar problems by clicking this option over and over again. Use this to your benefit and practice until you understand the material.
 - A note needs to be mentioned here. In order to get credit for completing a given assignment, you **must complete every problem in the assignment first BEFORE you click 'Try Another One'**. This is imperative. The green progress bar only records the total number of problems you've solved in that assignment **BEFORE** the 'Try Another One' is applied. An example: Suppose a given assignment has 5 problems. You solved the first 2 and the green progress bar has filled in 40% of the way. You then click 'Try Another One'. **ALL** 5 problems regenerate. You then solve 1 of the **NEW** 5 problems – your progress bar **WILL NOT INCREASE**. The system already knows you've accomplished 2 of the 5 problems. You must resolve the 2 types of problems you already solved, then continue solving the remaining 3 to receive the 100% completion you need on the assignment.
 - Reiterating the main point: You **must complete every problem in the assignment first BEFORE you click 'Try Another One'**. Otherwise, you'll have to redo all of the problems you've already solved on that assignment

2.2 Class Participation / Attendance

Up to 50 points may be earned by attendance, completing problems in class, and other various forms of Class Participation. More details will be available in class. **YOU MAY NOT TURN IN WORK FOR A STUDENT WHO IS NOT IN CLASS** (see honor code below). **There will be extra points available to account for an occasional absence.**

2.3 Final Exam

There will be a final exam on Thursday, August 9th, 2018 from 7:00pm to 9:00pm. In order to pass the course, you must score at least 60% on this test.

2.4 Standards-Based Grading

In this course, we will use Standards-Based Grading. Standards-based grading tests students on specific concepts that they should master and grading the papers as pass or fail. There is no partial credit and there are no points on these assessments. It's either correct or not. Students then receive grades based on how many concepts they have mastered (along with performance on homework and participation, see grading rubric below). Now, we realize some students may have an off day, may get sick and not be able to make it to an assessment, or may not be sure what to expect on an assessment. For this reason you get to retake the assessments up to **three** times until you prove mastery. Also, once you've proved that you know a concept, no one can take that away from you; it's in the bank. So, if you master the number of concepts required to earn a B in the course, no future assessment can damage that. Another advantage is that there is no quibbling about points. Your assessments are either correct or not and we can therefore talk about the mathematics instead of arguing about a point or two. Mastery of enough concepts will earn you a passing grade, but to get a higher grade in the class you will need to master some more advanced concepts.

Another benefit of this system is that you can prepare at your own pace. Instead of having to study a bunch of concepts for a specific test, you can prepare for one or two concepts being tested before having to move on to the next. That being said, we do have limited time in the semester, and it is very easy to let some assessments fall to the wayside. For this reason, there will be **three** cut-offs (the Quiz Frenzy days) throughout the semester, by which you need to have attempted all available assessments, otherwise you may risk being caught at the end of the semester.

2.5 Standards

Type I Standards	Type II Standards
Integration by Parts Partial Fraction Decomposition Improper Integrals Convergence of Sequences Geometric Series / p -series Alternating Series Ratio / Root Test Taylor Series Calculus of Parametric Curves Graphing Polar Equations Volumes by Revolution (Washer/Shell Methods)	Trigonometric Integrals Trigonometric Substitution Integral Test L'Hôspitals Direct / Limit Comparison Tests Error Estimating via Alternating Series Determining Intervals of Convergence Power Series via Integration and Differentiation Calculating Sums via Taylor Series Applications of Parametric Curves Calculating the Area of Polar Curves Volumes by Slicing

The above table of standards have been split into two types; Type I Standards and Type II Standards. The Type I Standards are all **required to pass the course**. Successful mastery of Type II Standards will be **required to earn a higher-than-passing grade** (see the next section for the grading scheme).

The table of standards is setup so that (most) Type I Standards have an associated Type II Standard. In most instances, this means that the Type II Standard is an important Calculus 2 concept that blends

nicely or is a direct application of the related Type I Standard. For this reason, we will often provide you with a single assessment that will **test both standards at the same time**. For example, once we have learned both Partial Fraction Decomposition and Trigonometric Substitution, you can take an assessment on **both of these at the same time**. The questions for each will relate to one another in a nice fashion. Note: If you, say, pass the Partial Fraction Decomposition question, but fail the Trigonometric Substitution question, you will still receive the credit for the Type I Standard! You will still need to attempt the Type II Standard again, but on your retake, you are welcome to only answer the relevant question. In this manner, you can take out multiple birds with fewer stones!

There is a small note to be made about this pairing of standards. In some cases, like the Improper Integrals / Integral Test pairing, where the Type II Standard content won't be taught until later in the course, testing both simultaneously may seem problematic. In this instance, if you take the assessment early in the course, we may only give you the one of the two that have been covered (typically the Type I Standard). Later in the course, once the other standard is taught, if you still haven't received credit for the master of Improper Integrals, you can then test both together. Similarly, there are some pairings (like Integration by Parts and Trigonometric Integrals) where the two standards are not intimately related but may still be assessed together.

2.6 Grading Scheme

Provided you score the necessary 60% on the final exam, your grade will be determined in the following manner:

A	<ul style="list-style-type: none"> • Demonstrate mastery of each Type I standard • Master 10 Type II standards • Have a class participation score of at least 40 points • Have a homework grade of at least 90 points
B	<ul style="list-style-type: none"> • Master each Type I standard • Master 8 Type II standards • Have a class participation score of at least 35 points • Have a homework grade of at least 80 points
C	<ul style="list-style-type: none"> • Master each Type I standard • Master 6 Type II standards • Have a class participation score of at least 30 points • Have a homework grade of at least 70 points
D	<ul style="list-style-type: none"> • Master each Type I standard • Have a class participation score of at least 25 points • Have a homework grade of at least 65 points
E	<ul style="list-style-type: none"> • Does not fit in the categories above

These standards will be assessed via short quizzes available during the last 15 minutes of class on Tuesday and Friday of every week (see calendar). If you do not achieve mastery on a particular concept, then you may reassess later. We will also have assessment opportunities periodically through the semester in what we will call Quiz Frenzies. These will be entire class periods dedicated to taking assessments – you can take

as many as you'd like within the class period. You will have ample opportunity to demonstrate your skills. However, remember that you need to be **actively** attempting these assessments. I want you to be prepared, but I do not want you to procrastinate.

PLEASE NOTE: The Quiz Frenzy days will act as forced cut-off points. Once a Quiz Frenzy day occurs, all of the assessments that were available up until that day are **not available to retake until August 2nd**. Starting on August 2nd (and continuing for the remaining **six** days of the course), **every day will be a Quiz Frenzy day**. During this period, you may retake any old, missed assessments.

2.7 Lecture Quizzes

Associated to every lecture is a Lecture Quiz. This is meant to be completed after you view the lecture's videos and tend to have question that check your comprehension and understanding. These quizzes are available at anytime throughout the semester. In total there are 37 and they are worth a total of 40 points. These points will be utilized in the determining the + or - for your Letter Grade with respect to the following table:

+/-	Points Needed
+	≥ 32 points
None	$12 \leq$ and < 32 points
-	< 12 points

Please endeavor to complete the Lecture Quizzes throughout the semester in conjunction with the video lectures.

2.8 Makeup Policies

- Since we will be using standards based grading, and you are allowed to take assessments effectively on your timetable, there are no "make-ups" for standards assessments.
- There are no make-ups for Xronos HW.
- There are no make-ups for class participation.

2.9 Incomplete Policy

A grade of I (incomplete) will be considered only if you meet the Math Department criteria which is found at <http://www.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.

3 Online Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

4 Advising and Help

For all concerns with MAC2312, please talk to your lecturer! Office hours will be posted and are regular times when they are available to answer questions, discuss grades, advise students on future classes, or help students in any available way. You do **not** need an appointment to visit during office hours. If you need to meet outside of office hours, please contact me for an appointment.

In addition, there are several other free resources available to you:

- The Teaching Center Math Lab, located at SE Broward Hall, offers free informal tutoring. You may want to attend different hours to find the tutors with whom you feel most comfortable. Also the Little 215 Tutoring Center provides free tutoring for courses up to Calculus 1. Go to <http://www.teachingcenter.ufl.edu> to find their hours. You can also request free one-on-one tutoring.
- A list of qualified tutors for hire is available at <http://www.math.ufl.edu>.

5 Honor Code

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.

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). 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/.

6 Students with Disabilities

Students requesting classroom accommodation must first register with the Dean of Students Office www.dso.ufl.edu/drc/. The DOS will provide documentation to the student who must then provide this documentation to the course instructor. Any accommodations must be submitted as soon as possible. If a student does not supply the appropriate documentation in a timely fashion, the instructor may not be able to accommodate the student in a timely manner.