MAC 2312: Calculus II, Summer C 2022
Live Sections

CONTACT INFORMATION:

COURSE Instructor:

Name	Section/Room/Time	Email
Burrell, David	11784/LIT 223/MTRF 2	davidburrell@ufl.edu
Teran Acaro, Dario	11787/MAT 115/MTRF 3	dteranacaro@uf.l.edu
Bandara, Chirantha	11788/LIT 233/MTRF 4	bandarac@ufl.edu

Office Hours: See Canvas Homepage

Textbook: There are no required textbooks for this course. You may use any calculus book as reference. For instance, Calculus Early Transcendental by Stewart is a great reference book, any edition is good. A free online textbook at Openstax volume 2 is also another good option. I encourage you to use the online Guided Learning Calculus 2 (GLC2).

Lecture Outline: There are options to obtain it: You may print them off from Canvas by clicking on Course Resource to find a table of lectures or, download a PDF file onto your tablet. (see 2.f)

Course Management System: CANVAS

Homework, Quizzes, Exams: Access them using the Assignment tab in Canvas.

UF Free Tutoring Service: Broward Teaching Center

MAC 2312 -- ANALYTIC GEOMETRY & CALCULUS II

MAC 2312_F2F Calendar, Summer C 2022

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1**(L1-4)** 5/9	**Class Begin** LQ1	LQ2	HW1(L1-2)	LQ3	LQ4
Wk 2**(L5-8)** 5/16	LQ5 HW2(L3-4)	LQ6 Q1(L1-4)	HW3(L5-6)	LQ7	LQ8
Wk 3**(L9-12)** 5/23	LQ9	LQ10 Q2(L5-8)	HW4(L7-9)	LQ11	LQ12
Wk 4**(L13)** 5/30	No Class	LQ13 HW5(L13)	HW6(L1-13)	Q3(L9-13)	**3** Exam1 (L1-13)
Wk 5**(L14-17)** 6/6	LQ14	LQ15	HW7(L14-15)	LQ16 Q4(L14-15)	LQ17
Wk 6**(L18-21)** 6/13	LQ18 HW8(L16-17)	LQ19 HW9(L18)	HW10(L19)	LQ20 Q5(L16-19)	LQ21 HW11(L20)
Wk 7(break) 6/20	Summer	Break	Week	No	Class
Wk 8**(L22-24)** 6/27	LQ22	LQ23 HW12(L21-22)	HW13(L14-23)	Q6(L20-23)	LQ24
Wk 9**(L25)** 7/4	No Class HW14(L24)	LQ25 Q7(L24)			**7/8** Exam2 (L14-23)
Wk 10**(L26-29)** 7/11	LQ2 HW15(25-26)	LQ27	HW18(L24-29)	LQ28 HW16(L27-28)	LQ29 HW17(L28-29)
Wk 11**(L30-33)** 7/18	LQ30 Q8(L25-29)	LQ31	HW19(L30-31)	LQ32	LQ33
Wk 12**(L34-36)** 7/25	LQ34 Q9(L29-33)	LQ35 HW20(32-34)	HW21(L30-35), Ex3RevQuiz	**28** Q10(L34-35) Exam3 (L24-35)	LQ36
Wk 13**(L37)** 8/1	LQ37	HW22(L36-37) HW23(L36-37)	FinRevQuiz Verify grades	**4** Q11(L36-37) Final(L1-37)	**Class ends**

All exams: Evening 7:20 PM – 9:00 PM. Exam Rooms will be announced in class prior to.

L11 (limits), L12 (L'Hospitals' Rule) are Calculus 1 Review lessons; L10, 23, 35 are mini unit review lessons.

- All due dates in the calendar are the date the work is to be received by Canvas. You may always complete and submit assignments early, except for the quizzes & exams which must be taken in the specified date. Due date is NOT Do date. If you wait to submit and you run into issues, you will be out of luck. Aim to have work submitted a few hours prior it's due, save the Due date for last minute emergency.
- LQn- Lecture Quiz, answer a few questions related to that lesson.
- DISn-Discussions (earn credits) on Exam n material: see DISn for more details.
- If you joined the class late, please contact your instructor for due dates extension of the first week work.
- One Week Policy- Verify and resolve all Canvas grade issues either within 1 week after the grade is posted or by the last Wednesday of the term, whichever comes first (except for the final exam). Absolutely NO grade disputes/discussion after the term is over.

2. INTRODUCTION

2a. COURSE DESCRIPTION and CONTENT. MAC2312, Calculus II, is the 2nd semester in the three-semester calculus sequence MAC 2311, MAC 2312, and MAC 2313 covering basic calculus. The course begins where MAC2311 left off at integration techniques, followed by a study of infinite sequences and series, parametric equations and polar coordinates and concludes with some applications of definite integrals finding volumes.

A minimum grade of C (not C –) in MAC 2312 satisfies the four credits of the general education mathematics requirement.

2b. PREREQUISITES. MAC2312 assumes that you have essential PreCalculus skills (both Algebra and Trigonometry) as well as the calculus 1 skills necessary to succeed in this course. Students should be able to do arithmetic without a calculator. Students may find a short list of review materials in the last section of this syllabus as well as review lessons L11 (limits) & L12 (L'Hospitals Rule).

Appropriate score on the ALEKS placement assessment, or a grade of C or better in UF MAC2311 meets the ***minimum*** requirement for the course**.** We encourage students to review the prerequisite material to gain a strong knowledge in order to succeed in calculus II. MAC2312 begins with integration chapter, you should already be competent in integrating simple functions and the use of u-substitution. We strongly recommend students who are having difficulty with these core calculus skills to review MAC2311 (or take the course if you have not done so). You may switch courses on one.ufl.edu during the drop-add period.

2c. REQUIRED MATERIALS.

Lecture Notes Outlines: See 2f.

Textbook: See page.1

Calculators & other devices: A graphing calculator or computer program (such as Desmos) can be useful as a learning tool when used appropriately, but they are not essential. Calculus is a collection of concepts, ideas and process that are not mastered through calculator skills. **No calculators** or any secondary devices are allowed during in-class quizzes and evening exams.

2d. ASSIGNMENT CALENDAR. Check the course calendar for due dates and plan your schedule accordingly.

2e. CANVAS. A UF courses management system, is located here. Use your Gatorlink username and password to login. All course information including your grade, course homepage, syllabus, lecture outlines, office hours, discussions forum, free help information, exam, mail tool…etc. can be accessed from this site.

One-Week Policy: You are responsible for verifying that your grades are accurate. **You have one week after a score has been posted (or by the last Wednesday of the semester, whichever comes first) to**

contact your instructor if you believe there has been a recording error and have it resolved immediately. There is no grade dispute, no reopening of missed assignments outside this window nor at the end of the semester.

Please note: Important course information is clearly communicated in this syllabus, the MAC2312 homepage and links in Canvas. Due to the volume of email received by the instructor, we cannot reply to each request for this well publicized information

2f. E-MAIL. All communications 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, checking their email accounts regularly, and any class information sent to their ufl.edu account. Please be sure to sign your name to your e-mails.

2g. LECTURES. Students are expected to come to lectures prepared. That means reading and understanding each lecture material as well as taking appropriate notes in class and asking questions both in and out of class. Outlines to the course lectures notes are available in PDF format on Canvas.

Lecture Notes Outlines: It is important that you should have a copy of the lecture outlines. This will make it easier to take notes in lectures. You may print out each lecture in Canvas, or download a digital copy if you use a tablet.

2h. CLASS PARTICIPATION: Attendance in the entire 65-minutes class is required. Students who come to class and participate are more likely to do well in the course. Participation will be a part of your grade and will be calculated based attendance.

Further, following university policy, you may expect a penalty (additional lost points) for attending fewer than 75% of your classes.

2i. STUDENTS WITH DISABILITIES. UF welcome students with disabilities into the UF programs. Students requesting classroom accommodations must first register with the Dean of Students Office Disability Resource Centr (DRC) , (352-392-8565). The DRC will provide documentation to the student who must then provide this to the instructor as soon as possible so there is adequate time to make proper accommodations.

2j. ACADEMIC HONESTY.
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."

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 an 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 here.

In addition, we remind you that lecture notes and GLC2 are the property of the University/faculty member and may not be distributed/shared without prior permission from the instructor and may not be used for any commercial purpose. Students found to be in violation may be subject to discipline under the Student Conduce Code.

3. GRADING

3a. COURSE GRADE. Your course grade is determined by unweighted points as follows:

37 Lecture Quizzes (drop 3 lowest LQ)	81 points
Online Homework Group 1 (18 HWn) (drop 1 lowest)	34 points
Online Homework Group 2 (5 HWn)	30 points
Class Participation (65-min attendance in lectures)	40 points
Quiz (11 Qn) (drop 1 lowest)	100 points
3 Unit Exams(100 each) & cumulative Final(115)	415 points
Total:	700 points

In addition, there are extra credits opportunities (see 3g).

Your course grade will be determined by **total points earned** according to the following scale.
There will be no additional curve in this course, extra assignments for individual students to improve a grade are NOT possible.

A	630 and up	C	490 and up
A –	609 and up	C – *	469 and up
B +	588 and up	D+	448 and up
B	560 and up	D	420 and up
B –	539 and up	D –	350 and up
C +	518 and up	E	below 350

*Note: A grade of 'C –' or lower DOES NOT give University General Education credit!
For those taking the 'S – U' option: S[> 70%] U[< 70%]
Approval of the 'S – U' option must be obtained from your instructor and approved by the registrar's office. The deadline for filing an application with the Registrar and further information about the 'S – U' option are found in the undergraduate UF Catalog.

3b. INCOMPLETE GRADES POLICY. Students who are currently passing a course but are unable to complete the course because of illness or emergency may be granted an incomplete grade of I which will allow the student to complete the course within the first two weeks of the following semester. See the policy

on the math department criteria. If you meet the criteria, you must see the instructor before finals week to be considered for an I. **An "I" only allows you to make up your incomplete work, not redo your work.**

3c. GETTING STARTED:

This class meets 4 times a week according to the course calendar. We use the 65 minutes lecture to introduce new material and have the opportunity for open discussion of the lecture material and assigned problems. However, lecture time is generally not adequate to answer all questions. Be sure to take advantage of the opportunity outside of class, such as office hours, for additional help.

Your instructor is available during office hours (or by appointment) to answer your questions about the course material. Your instructor is responsible for grading and recording all quiz and exam scores. You must retain all returned papers in case of any discrepancy with your course grade. You should check Canvas regularly and consult with your instructor if you have any questions about recorded grades. All grade concerns must be taken care of within one week of posting of the scores in Canvas.

3d. LECTURE QUIZZES – LQ. MAC2312 is organized into 37 lectures. There is a Lecture Quiz to be completed for each lecture in Canvas. The lowest three LQ scores will be dropped at the end of the semester.

3e. HOMEWORK – HW. Homework is giving online in Canvas and, as with LQ, it must be completed by the specified due date and these due dates will not be extended. There are two groups of HW. The second group of HW consists of 5 unit summary assignments, worth 6 points each. There will be one dropped from the first group of HW at the end of the semester.

Note: You might experience trouble seeing correct math images or the minus sign when viewing math in Canvas. Be sure to ***disable acceleration*** in chrome to minimize the chances of that happening. 'Right click' on the unreadable math image to '*open image in a new tab*' to see the correct image on the upper left corner in the new tab. Enlarge screen-size helps seeing the minus sign correctly.

Complete your work early, don't wait till due date. Personal computer/internet issues, will NOT be a reason to offer any type of makeup, nor extension. Contact your instructor immediately if you are experiencing problems.

3f. QUIZZES & EXAMS. With exception of the first and 10^{th} weeks of the class, there will be weekly quizzes administered by your instructor during lecture period. Any questions about the grades should be directed to your instructor.

EXAMS: See the course calendar for the exam dates and time. There will be three (paper & pencil) mid-terms. The midterms will consist of two parts. Part I will be multiple choice questions. Part 2 will consist of long/free response problems. These exams are assembly exams and will take place in the evening during examination periods, from 7:30pm to 9pm. Exam locations will be announced in lecture prior to the exam.

A mandatory, cumulative final exam will be given on the last Thursday of the summer C. The exam consists of multiple choice questions only. Make a note of the date now and please inform any interested parties who may be making plans for you around that time (such as purchasing plane tickets, travel plans…etc.)

3g. EXTRA CREDIT. You may earn points via Exam3 Review, Final Exam Review quizzes. Up to 20 points can be added to your course grade, be sure to take advantage of them.

3h. ADDITIONAL PRACTICE PROBLEMS. There are problems listed at the end of each lecture, called 'Now You Try It' (NYTI). They are designed to emphasize important concepts and provide extra practice of the lecture material. Some of them are included in the Lecture Quiz as well. NYTI problems are not graded, but it is strongly encouraged that you work them out. **Solutions** to NYTI are posted in the 'Lecture Notes' table under Course Resources in Canvas. You may also find 277 extra practice problems/answers in Course Resources if you want more problems to practice.

4. TESTING.

4a. There are three 90-minute unit exams and one two-hour cumulative final exam given on the dates specified in the course calendar. Make sure you are available to take the quiz/exam at the designated date. The exam location will be announced in lecture prior to the exams.

4b. Cell Phones & Secondary Devices: Cell phones must be turned off (not on vibrate) and put away during a test or quiz. Use (defined as having one physically in your hand or nearby) of a cell phone 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/received a text message to/from someone. Wait until after you have submitted your work to use it.

4c. MAKEUP POLICIES. Exams must be taken on the exam date, all make-up work must be arranged prior to the exam. This is an assembly exam. We allow students makeup opportunity without grade penalty if they meet the requirements below, but we do not allow exam re-take after they have taken it.

1. **Quiz/Exam Conflicts**
    a. If other classes are scheduled during an exam time, instructors must provide make-up class work for students who miss class because of an assembly exam. If two exams are scheduled at the same time, assembly exams take priority over time-of-class exams. When two assembly exams conflict, the higher course number takes priority. If you have more than three assembly exams on a particular date, you can contact the instructor of the lowest assembly exam or non-assembly exam and make arrangements to take a makeup exam. If MAC2312 is the lower course number, students must inform their instructor in person ***by the end of the second week*** so that appropriate accommodations can be made. Otherwise, it may not be possible to reschedule. See UF Exam Policies.
    b. If you have religious observance, you may make up an exam. Inform your instructor ***by the end of the second week*** with a valid documentation.
2. **Makeup – Quiz/Exams**:
    a. Students who miss an exam due to illness, severe family emergency, and/or severe weather as outlined in the UF Attendance Policies and wish to make up the exam must contact their instructor through the Dean of Students office CARE team at https://care.dso.ufl.edu/instructor-notifications/ with appropriate documentation. Once the instructor receives notice from the CARE team covering the dates during which the exam took place the student will be signed up by their instructor to take a makeup exam.
    b. Students who miss an exam due to other reasons as outlined in the UF Attendance Policies (eg. Special curricular requirements, official university activities, Court Order,

etc) must contact their instructor either through email or in person at least ONE WEEK in advance of the exam.

3. **Attendance Policies:** You will be denied a makeup if you have not completed at least 75% of all the course work thus far and have not completed all prior quizzes and exams.
4. Missing a quiz or exam due to **negligence**, however, will result in a minimum of 10–points penalty on their makeup.

5. **Other make ups**:

   a. **There are no make-ups on any assignments and class participation points** as certain number of these assignments are dropped at the end of the semester.
   b. **There are no make-ups on extra credit opportunities**.

All quiz, unit exams makeups must be completed by the **last Monday** of the semester **before the final exam**.

Note: Information in this syllabus is subject to change. Any changes will be clearly announced in lectures, Announcements, Discussions Boards or through email.

5. FORMULAS YOU ARE EXPECTED TO KNOW.

This course assumes that you have a sound precalculus and calculus 1 background. The following is a summary of some important concepts used in solving calculus problems. The textbook provides a more complete review of these essential topics.

COMPLETING THE SQUARE $x^2 + ax + b = (x + \frac{a}{2})^2 + (b - (\frac{a}{2})^2)$

LAW OF EXPONENTS $a^{n+m} = a^n a^m$ $a^{n-m} = \frac{a^n}{a^m}$ $(a^m)^n = a^{mn}$

PROPERTIES OF logarithms $log_b|xy| = log_b|x| + log_b|y|$

$$log_b\left|\frac{x}{y}\right| = log_b|x| - log_b|y|$$

$$log_b|a^m| = m\, log_b|a|, \quad log_b|x| = \frac{\ln|x|}{\ln b}$$

PARABOLA $y = f(x) = ax^2 + bx + c$ CIRCLES $(x-a)^2 + (y-b)^2 = r^2$

Vertex $x = -\frac{b}{2a}$, $y = f(-\frac{b}{2a})$ Center (a, b), radius $= r$

Derivatives

$\frac{d}{dx}(\sin x) =$ $\frac{d}{dx}(\csc x) =$ $\frac{d}{dx}(\cos x) =$ $\frac{d}{dx}(\sec x) =$

$\frac{d}{dx}(\tan x) =$ $\frac{d}{dx}(\cot x) =$ $\frac{d}{dx}(\arctan x) =$

$\frac{d}{dx}(a^x) =$ $\frac{d}{dx}(e^x) =$ $\frac{d}{dx}(log_a x) =$ $\frac{d}{dx}(\ln x) =$

Integrals

$\int \frac{1}{x} dx =$ $\int e^x \, dx =$ $\int a^x \, dx =$

$\int \sin x \, dx =$ $\int \cos x \, dx =$ $\int \tan x \, dx =$ $\int \cot x \, dx =$

$\int sec^2 x \, dx =$ $\int csc^2 x dx =$ $\int \sec x \tan x \, dx =$ $\int \cot x csc \, x \, dx =$

$\int tan^2 x \, dx =$ $\int cot^2 x \, dx =$ $\int \frac{1}{a^2 + x^2} \, dx =$

Trig Identities

$sin^2 x + cos^2 x = 1$ $tan^2 x + 1 = sec^2 x$ $1 + cot^2 x = csc^2 x$

$sin^2 x =$ $\sin 2x =$

$cos^2 x =$ $\cos 2x =$

Know values of $\sin x$, $\cos x$, $\tan x$ at $x = 0$, $\frac{\pi}{6}, \frac{\pi}{4}, \frac{\pi}{3}, \frac{\pi}{2}$; arctan(a) at a=0, 1, sqrt(3), 1/sqrt(3).

(know the values of the other trig. functions at these angles and know the values of all trig functions at complementary and supplementary angels of the angles above)

Chain Rules $(f(g(x))' = f'(g(x))g'(x)$