

Honor Calculus with Analytic Geometry II

MAC 2312 Lecture

4 Credit Hours

Fall 2024

<u>Instructor</u>	<u>Office</u>	<u>Office Hours</u>	<u>Email</u>	<u>Lectures</u>
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<u>Teaching Assistants</u>	<u>Office</u>	<u>Office Hours</u>	<u>Email</u>	<u>Discussion Sec.</u>
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Prerequisites MAC 2311 with a minimum grade of C or AP/IB/AICE credit for MAC 2311.

Course Description MAC 2312 is the second semester in the three-semester sequence MAC 2311, MAC 2312, MAC 2313 covering basic calculus. The course begins where MAC2311 left off at integration techniques, followed by some applications of integration. The next part of the course covers infinite sequences and series, culminating with Taylor Series and applications. MAC 2312 concludes with a study of parametric equations and polar coordinates.

General Education Objectives and Learning Outcomes This course is a mathematics (M) course in the UF General Education Program. Completing this course with a minimum grade of C will satisfy the student's State Core Mathematics requirement of the UF General Education Program. 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.

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.* After completing this course students will gain a knowledge of integration, infinite series, and parametric equations. This will be assessed through Xronos homework assignments, discussion 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 their discussion sessions and as well as through writing on discussion 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, techniques of integration, calculation of volumes of revolution, calculation of work, determining the convergence or divergence of infinite series, using power series representations to evaluate functions and integrals, using the calculus of parametric equations to calculate arc length, and graphing and calculating the areas of polar curves. This will be assessed through Xronos homework assignments, discussion quizzes, and exams.

**Required
Materials**

There are no required textbooks for this course. We will make use of a free online textbook available at [Openstx Calculus Volume 2](#) as well as the online [Guided Learning Calculus 2–GLC2](#). Also, in this course we will use the online platform Xronos which has been developed at UF and is supported by the Office of the Provost and the College of Liberal Arts and Sciences. Xronos is accessible through the Canvas site. More details will be given in class.

**E-Learning
Canvas:**

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 outlines, 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. **You have one week after a score has been posted to contact your TA if you believe there has been a recording error. There is no grade dispute at the end of the semester.**

Please note: Important course information is clearly communicated in this course guide, the MAC 2312 homepage and links in Canvas, and announcements in lecture and discussion. Due to the volume of email received by the instructor and TAs, we cannot reply to each request for this well publicized information. If you cannot find your answer in the resources above, there is also a **Discussion Forum** available in Canvas. Please use this to post questions and to supply answers to your fellow classmates.

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, 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.

Lectures

Every Monday, Wednesday, and Friday (except for school holidays and exam days), there will be a 50 minute lecture in LIT 201. These lectures will introduce and provide examples of new course material. Attendance at these lectures is strongly encouraged, as you will have practice questions to work on during class. Lecture note outlines will be available on Canvas from day one of the semester.

Discussion Sections

Discussion sections meet once a week on either Thursday. These meetings give you a valuable opportunity for open discussion of the lecture material and assigned problems in a smaller class setting. **Attendance in discussion is required as it is where assessment of your skills will take place.** However, one period per week is generally not adequate to answer all questions. Be sure to take advantage of the opportunities outside of class for additional help (such as office hours and the free tutoring provided by the Academic Resources and Math Help in LIT 250).

Your main resource is your discussion leader (ie. your TA). He or she will be available during office hours (or by appointment) to answer your questions about the course material. Your TA is responsible for grading and recording all quiz scores. You must retain all returned papers in case of any discrepancy with your course grade. As mentioned above, **you should check Canvas regularly and consult with your TA if you have any questions about recorded grades. All grade concerns must be taken care of within one week of receiving the score.**

If you have concerns about your discussion class which cannot be handled by your TA please contact the instructor.

Exams

Midterm exam dates are as follows:

Exam 1: Monday, September 30

Exam 2: Monday, October 28

Exam 3: Tuesday, November 19

Makeup for Exam 1, Exam 2, and Exam 3: Tuesday, December 3, 6:15 PM - 7:55 PM (tentative)

Final Exam: Monday, December 9, 12:30 PM - 2:30 PM

Make up for Final Exam: Friday, December 13, 3:00 PM - 5:00 PM

There will be three (paper and pencil) midterms throughout the semester. The midterms will consist of two parts. Part 1 will be multiple choice questions. Part 2 of the midterm exams will consist of free response problems.

These midterm exams will take place in the evening, from 8:30 PM to 10:10 PM.

The FINAL EXAM will take place on Monday, December 9 from 12:30 PM to 2:30 PM. Make a note of this now and please inform any interested parties (e.g. your parents) who may be making plans for you around that time (such as purchasing plane tickets to fly home, etc.).

Each midterm exam is worth 15% of your final grade while the final exam is worth 25% of your final grade. No exam grades will be dropped. There are no exam retakes.

Online Homework

In this course we will be using the online platform Xronos which is free of charge and will be explained during class. Online homework assignments will be assigned daily and must be completed by the specified due date. **No assignments can be submitted after the due date.** Online homework assignments are worth a total of 10% of your final grade. There will be a total of three dropped homework grades at the end of the semester.

All assignments will have posted due dates and these due dates will not be extended without documentation of a University approved excuse.

Personal computer issues, will NOT be a reason to offer any type of extension. It is strongly recommended that you begin the homework well before the due date to account for any unforeseen difficulties. If you have any issues accessing the online homework, please contact the instructor.

Class Participation Attendance in lecture is highly recommended and attendance in discussion section is required. Students who come to class and participate are more likely to do well in the course.

Discussion Quizzes There will be weekly quizzes during your discussion similar to homework questions and examples from class. Quizzes make up a total of 10% of your grade. The quizzes will be administered by your TA and any questions about the grades should be directed to him or her. If your TA is unable to address your questions, please contact the course coordinator. Your two lowest discussion quizzes will be dropped at the end of the semester.

Make-up Policy Requirements for class attendance and make-up exams, assignments, and other work in the course are consistent with university policies. See [UF Academic Regulations and Policies](#) for more information regarding the University Attendance Policies. All make-up work must be arranged with the course instructor unless otherwise stated below.

- **Exam Conflicts - UF during Term Assembly Exam Policy** (catalog.ufl.edu/ugrad/current/regulations/info/exams.aspx): “During-term examinations are held during regular class times or during assembly exam periods, which are Monday-Friday from 8:20 - 10:10 p.m. (periods E2-E3) for the fall and spring terms and Monday-Friday from 7:00 - 9:45 p.m. (periods E1-E2) for the summer terms. 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. When two exams conflict, assembly exams (multiple sections and enrollment over 300) take precedence over non-assembly exams (single sections and/or enrollment under 300). If two assembly exams conflict, the course with the higher number will take priority. Likewise, if two non-assembly exams conflict, the higher number will again take priority. Instructors giving make-up exams will make the necessary adjustments. Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence. A reasonable amount of time to make up a during-term exam is before the end of the semester in which the student is enrolled in the class.”

If MAC 2312 is the lower course number, students must inform the course instructor at least ONE WEEK in advance of the exam date so that appropriate accommodations can be made. Otherwise it may not be possible to reschedule.

- **Make-up Exams** If you are participating in a UF sponsored event or religious observance, you may make up an exam only if you make arrangements with the course instructor at least ONE WEEK PRIOR to the event. You must present documentation of a UF sponsored event.

If illness or other extenuating circumstances cause you to miss an exam, contact the course instructor (no later than 24 hours after the exam) by email. Then, as soon as possible after you return to campus, provide the appropriate documentation to the course instructor. You will be allowed to sign up to take a makeup exam at the end of the semester. **The make up for Exam 1, Exam 2, and Exam 3 is tentatively scheduled for Tuesday, December 3, 6:15 PM - 7:55 PM. The make up for the final exam is scheduled during the University’s designated make up period on Friday, December 13, 3:00 PM - 5:00 PM.**

- **Make-up Xronos HW:** There are no make-ups.
- **Make-up Group Projects:** There are no make-ups.
- **Make-up discussion quizzes:** Missed discussion quizzes can be made up if appropriate documentation is provided. If you miss a discussion quiz, then you should contact your TA as soon as possible to arrange a make-up quiz. **Arrangements must be made within one week of the scheduled quiz otherwise the quiz grade becomes a 0.**

Incomplete

Students who are currently passing a course and have completed majority of the course work 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 <https://math.ufl.edu/departments/incomplete-grades/>. If you meet the criteria, you must contact the course 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.

Grading

- Xronos Homework: 10%
- Discussion Quizzes: 10%
- Group Projects: 10%
- Midterm Exam Average (3 mid-term exams): 45%
- Final Exam: 25%

Your final grade will be rounded to the nearest hundredth and a letter grade will be given using the following grading scale:

Grading Scale

90.00-100 A	87.00-89.99 A-	84.00-86.99 B+	80.00-83.99 B
77.00-79.99 B-	74.00-76.99 C+	67.00-73.99 C	64.00-66.99 C-*
60.00-63.99 D+	57.00-59.99 D	54.00-56.99 D-	0-53.99 E

***Note** A grade of C- DOES NOT give Gordon Rule or General Education credit!

For those take the S-U option: 67.00-100 S 0.00-66.99 U

Approval of the S-U option must be obtained from the course coordinator. The deadline for filing an application with the Registrar and further restrictions on the S-U option are given in the Undergraduate Catalog.

For a complete explanation of current policies for assigning grade points, refer to the UF undergraduate catalog:

catalog.ufl.edu/ugrad/regulations/info/grades.aspx

NOTE: We will not review disputed points at the end of the semester. All grade concerns must be settled within one week of the return of the paper.

Extra Credit

Each midterm exam has 105 points on it but is taken out of 100 points. The final exam has 110 points on it but is taken out of 100 points. These are your only opportunities to earn extra credit this semester. No other extra credit will be offered.

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.

- [Teaching Center](#): 1317 Turlington Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.
The Academic Resources tutors hold reviews on the evenings before each exam. They also provide videos of review and sample test problems. Check the webpage, [Academic Resources Tutors](#), for a map of the location, tutoring hours, and test review dates and locations. **All students are encouraged to use the Academic Resources.**
- Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at helpdesk@ufl.edu for E-learning technical support.
- U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit [U Matter, We Care Website](#) to refer or report a concern and a team member will reach out to the student in distress.
- Visit the [University Policy Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).
- UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the [UF Health Emergency Room and Trauma Center website](#).
- For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the [GatorWell website](#) or call 352-2734450.
- Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the [Student Health Care Center website](#).
- Visit [The Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.
- [Career Connections Center](#): Reitz Union Suite 1300, 352-3921601. Career assistance and counseling services.

Calculators Calculators are **NOT** permitted on exams and discussion quizzes. Please avoid using a calculator on homework as it will not help you prepare for the exams.

Cell Phones Cell phones must be turned off (not on vibrate) before coming to class. Use (defined as having one physically in your hand) 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.

Music Players iPods and other music players are not to be used during class tests and quizzes. Having one out during a test or quiz will result in a grade of zero and possible disciplinary action.

Students with Learning Disabilities

Students requesting class and exam accommodations should connect with the Disability Resource Center (DRC). See the [“Get Started With the DRC” webpage](#) on the Disability Resource Center site. 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. That office will provide a documentation letter via email to the course instructor. 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.

COVID Policy

In response to COVID-19, the following recommendations are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

- If you are not vaccinated, get vaccinated. Vaccines are readily available and have been demonstrated to be safe and effective against the COVID-19 virus. Visit [one.uf](#) for screening / testing and vaccination opportunities.
- If you are sick, stay home. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 to be evaluated.
- You will be given a reasonable amount of time to make up work.

Diversity and Inclusion

The Mathematics Department is committed to diversity and inclusion of all students. We acknowledge, respect, and value the diverse nature, background and perspective of students and believe that it furthers academic achievements. It is our intent to present materials and activities that are respectful of diversity: race, color, creed, gender, gender identity, sexual orientation, age, religious status, national origin, ethnicity, disability, socioeconomic status, and any other distinguishing qualities.

Academic Honesty Guidelines

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 Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. [See the UF Conduct Code website](#) for more information. If you have any questions or concerns, please consult with the instructor or TAs in this class.

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 UF Regulation 4.040 Student Honor Code and 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/>.

Important Fall 2024 Academic Dates and Deadlines

Classes Begin	Monday, January 8
Drop/Add	Tuesday, August 22 - Wednesday, August 28 (11:59 PM)
Withdrawal deadline (full refund)	Wednesday, August 28 (11:59 PM)
Withdrawal deadline (25% refund)	Friday, September 13
Drop deadline (no refund)	Friday, November 22 (11:59 PM)
Classes end	Wednesday, December 4

Holidays (no classes)

Labor Day	Monday, September 2
Homecoming	Friday, October 18 - Saturday, October 19
Veteran’s Day	Monday, November 11
Thanksgiving Break	Monday, November 25 - Saturday, November 30

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

Tentative Schedule

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1				August 22 Meet Your TA	August 23 Introduction
Due				No Quiz	
2	August 26 L1 - Integration by Parts 1	August 27 Meet Your TA	August 28 L2 - Integration by Parts 2	August 29	August 30 L3 - Trigonometric Integrals 1
Due		No Quiz		No Quiz	Xronos Tutorial
3	September 2 Labor Day - No classes	September 3	September 4 L4 - Trigonometric Integrals 2	September 5	September 6 L5 - Trigonometric Substitution 1
Due		Quiz 1: L1-L3	Xronos 1	Quiz 1: L2-L3	
4	September 9 L6 - Trigonometric Substitution 2	September 10	September 11 L7 - Partial Fractions 1	September 12	September 13 L8 - Partial Fractions 2
Due		Quiz 2: L4-L5	Xronos 2	Quiz 2: L4-L6	Xronos 3
5	September 16 L9 - Improper Integrals	September 17	September 18 L10 - Areas and Volumes	September 19	September 20 L11 - Disk and Washer Method
Due	Xronos 3	Quiz 3: L6-L8		Quiz 3: L7-L9	Xronos 4
6	September 23 L12 - Shell Method	September 24	September 25 L13 - Probability	September 26	September 27 L14 - Work
Due	Xronos 5, 6	Quiz 4: L9-L11	Xronos 7	Quiz 4: L10-L12	
7	September 30 Review for Exam 1 Exam 1 (L1-L12)	October 1	October 2 L15 - Sequences	October 3	October 4 L16 - Series
Due	Xronos 8	Quiz 5: Attendance	Xronos 9	Quiz 5: Attendance	Xronos 10
8	October 7 L17 - Summing Series	October 8	October 9 L18 - Integral Test	October 10	October 11 L19 - Direct Comparison
Due	Xronos 10	Quiz 6: L15-L16	Xronos 11	Quiz 6: L15-L17	Project1

Week	Monday	Tuesday	Wednesday	Thursday	Friday
9	October 14 L20 - Limit Comparison	October 15	October 16 L21 - Alternating Series Test	October 17	October 18 Homecoming - No classes
Due	Xronos 12	Quiz 7: L17-L19	Xronos 13	Quiz 7: L18-L20	
10	October 21 L22 - Ratio/Root Test	October 22	October 23 L23 - Series Summary	October 24	October 25 L24 - Power Series
Due	Xronos 14	Quiz 8: L20-L21	Xronos 15	Quiz 8: L21-L22	
11	October 28 Review for Exam 2 Exam 2 (L13-L23)	October 29 No Discussion	October 30 L25 - Power Series Rep. 1	October 31	November 1 L26 - Power Series Rep. 2
Due	Xronos 16, 17	Quiz 9: Attendance		Quiz 9: Attendance	Xronos 18
12	November 4 L27 - Taylor Series 1	November 5	November 6 L28 - Taylor Series 2	November 7	November 8 L29 - Taylor Series 3
Due		Quiz 10: L25-L26	Project2	Quiz 10: L25-L27	Xronos 19
13	November 11 Veteran's Day - No classes	November 12	November 13 L30 - Arc Length	November 14	November 15 L31 - Parametric Equations
Due		Quiz 11: L27-L29	Xronos 20	Quiz 11: L28-L29	Xronos 21
14	November 18 Review for Exam 3	November 19 Exam 3 (L24 - L29)	November 20 L32 - Calculus of Parametric Curves	November 21	November 22 L33 - Polar Coordinates
Due	Xronos 22	Quiz 12: Attendance	Xronos 23	Quiz 12: Attendance	Xronos 24
15	November 25 Thanksgiving Break	November 26 Thanksgiving Break	November 27 Thanksgiving Break	November 28 Thanksgiving Break	November 29 Thanksgiving Break
Due					
16	December 2 L34 - Graphing Polar Curves	December 3	December 4 L35 - Polar Area	December 5 Reading Day - No Classes	December 6 Reading Day - No Classes
Due	Xronos 25, 26	No Quiz			Xronos 27

Monday, December 9 - Final Exam (12:30 PM - 2:30 PM) (Cumulative L1-35)