Calculus with Analytic Geometry II
MAC 2312 Lecture
4 Credit Hours
Spring 2026

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Lecture:	MWF Period 3 in TUR L007

Instructor:	Kwai-Lee Chui
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Lecture:	MFW Period 5 in TUR L007
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Teaching Assistants	Office	Office Hours	Email
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Discussion Section	Time	Location	TA
NC21	T Period 2 (8:30 AM - 9:20 AM)	LIT 207	Jayant
NC22	T Period 3 (9:35 AM - 10:25 AM)	LIT 219	Jayant
NC23	T Period 4 (10:40 AM - 11:30 AM)	MAT 15	Barton
NC24	R Period 4 (10:40 AM - 11:30 AM)	LIT 219	Xu
NC25	R Period 5 (11:45 AM - 12:35 PM)	MAT 9	Rathi
NC26	R Period 6 (12:50 PM - 1:40 PM)	LIT 217	Berryman-Dages
NC27	T Period 9 (4:05 PM - 4:55 PM)	LIT 205	Arroyo
NC28	T Period 10 (5:10 PM - 6:00 PM)	LIT 205	Arroyo
162A	T Period 3 (9:35 AM - 10:25 AM)	LIT 235	Azizi
3106	T Period 3 (9:35 AM - 10:25 AM)	LIT 223	Thomas, E.
1851	T Period 4 (10:40 AM - 11:30 AM)	LIT 219	Azizi
7284	R Period 4 (10:40 AM - 11:30 AM)	MAT 12	Rathi
3107	T Period 5 (11:45 AM - 12:35 PM)	LIT 217	Maier
7310	T Period 6 (12:50 PM - 1:40 PM)	LIT 207	Maier
7303	R Period 7 (1:55 PM - 2:45 PM)	MAT 9	Berryman-Dages
7322	T Period 7 (1:55 PM - 2:45 PM)	LIT 217	Thomas, E.
7326	T Period 8 (3:00 PM - 3:50 PM)	LIT 207	Barton
2620	T Period 2 (8:30 AM - 9:20 AM)	LIT 217	Litvin
2777	R Period 2 (8:30 AM - 9:20 AM)	LIT 223	Narayanan
7329	T Period 4 (10:40 AM - 11:30 AM)	LIT 207	Litvin
7330	T Period 6 (12:50 PM - 1:40 PM)	LIT 205	Aivalis
7332	R Period 6 (12:50 PM - 1:40 PM)	LIT 219	Ison
7331	T Period 7 (1:55 PM - 2:45 PM)	LIT 205	Aivalis
7333	R Period 7 (1:55 PM - 2:45 PM)	AND 32	Ison
3097	T Period 3 (9:35 AM - 10:25 AM)	LIT 233	Chou
3098	R Period 3 (9:35 AM - 10:25 AM)	LIT 219	Narayanan
3099	T Period 4 (10:40 AM - 11:30 AM)	LIT 217	Craddock
3100	R Period 4 (10:40 AM - 11:30 AM)	MAT 13	Pham
3101	T Period 5 (11:45 AM - 12:35 PM)	LIT 219	Chou
3102	R Period 5 (11:45 AM - 12:35 PM)	LIT 217	Cho, M.
3111	T Period 5 (11:45 AM - 12:35 PM)	LIT 207	Craddock
3103	R Period 6 (12:50 PM - 1:40 PM)	LIT 221	Cho, M.
021D	R Period 7 (1:55 PM - 2:45 PM)	MAT 10	Pham

Prerequisites MAC 2311 with a minimum grade of C or AP/IB/AICE credit for MAC 2311.

Course Description Techniques of integration; applications of integration; differentiation and integration of inverse trigonometric, exponential and logarithmic functions; sequences and series. (Note: Credit will be given for at most one of MAC 2312, MAC 2512 and MAC 3473.)

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 be able to solve problems involving integration techniques, infinite series, and parametric equations.

• **Communication:** *Students communicate knowledge, ideas, and reasoning clearly and effectively in written and oral forms appropriate to the discipline.* 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, determing the convergence or diverges of infinite series, using power series representations to evaluate functions and integrals, and graphing and calculating areas of polar curves.

Required Materials and Supply Fees

N/A

Textbook

We will make use of a free online textbook available at Openstx Calculus Volume 2 as well as the online Guided Learning Calculus 2.

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. 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 before each class

Discussion Sections

Discussion sections meet once a week on either Tuesday or Thursday depending on which section you are enrolled in. 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.

Your main resource is your discussion leader. 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 <u>all</u> 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 <u>within one week</u> of receiving the score.**

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

Exams

Midterm exam dates are as follows:

Exam 1: Thursday, February 12

Exam 2: Thursday, March 12

Exam 3: Tuesday, April 14

Makeup for Exam 1, Exam 2, and Exam 3: Tuesday, April 21, 6:15 PM - 7:55 PM (tentative)

Final Exam: Saturday, April 25, 12:30 PM - 2:30 PM

Make up for Final Exam: Friday, May 1, 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 Saturday, April 25 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 without documentation of a University approved absence**. 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 unforseen difficulties. If you have any issues accessing the online homework, please contact the course coordinator.

Class Participation

Attendance in class both in lecture and discussion section is highly recommended. Students who come to class and participate are more likely to do well in the course. During each lecture we will work out several examples. To receive class participation credit you need to submit your answers to some of these questions on Canvas by the end of the day the lecture is given. These will be scored based on correctness, but the solutions to the problems will be given in class. Class participation is worth a total of 10% of your final grade. Your lowest three class participation scores will be dropped.

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 this course are consistent with university policies that can be found at https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx. All make-up work must be arranged with the course coordinator 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 coordinator 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 coordinator 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 coordinator as soon as possible by email. Then, as soon as possible after you return to campus, provide the appropriate documentation to the course coordinator. 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, April 21, 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, May 1, 3:00 PM - 5:00 PM**.

• **Make-up Xronos HW**: You must submit documentation of a University approved absence to the course coordinator in order to make a missed Xronos assignment.

• **Make-up class participation points**: There are no make-ups. If you submit documentation of a University approved absence to the course coordinator, then the missed class participation assignment will be excused.

• **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 ortherwise the quiz grade becomes a 0**.

Incomplete

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 http://www.math.ufl.edu/fac/incompletes.html. If you meet the criteria, you must contact the course 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.

Grading

Xronos Homework: 10%

Discussion Quizzes: 10%

Participation: 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 who 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.

- Academic Resources offers various forms of academic support to help students succeed in their studies. All tutoring services are free to UF students, and include tutoring services for biology, chemistry, mathematics, physics and statistics courses within the College of Liberal Arts and Sciences. Check the web page https://academicresources.clas.ufl.edu/tutoring/ for more information.
  In addition, Academic Resources holds reviews before each exam. They also provide videos of reviews and sample test problems. Check the webpage, https://academicresources.clas.ufl.edu/, for more information. **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 www.math.ufl.edu. Search "tutors".

  for information on math confidence and information on joining the Academic Confidence Group.

Calculators

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

Cell Phones

Cell phones must be silenced 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.

Academic Policies & Resources

This course complies with all UF academic policies. For information on those polices and for resources for students, please see this link.

Important Spring 2026 Academic Dates and Deadlines

Classes Begin	Monday, January 12
Drop/Add	Monday, January 12 - Friday, January 16 (11:59 PM)
Withdrawal deadline (full refund)	Friday, January 16 (11:59 PM)
Withdrawal deadline (25% refund)	Friday, February 6
Drop deadline (no refund)	Friday, April 10 (11:59 PM)
Classes end	Wednesday, April 22
Reading days	Thursday, April 23 - Friday, April 24
Final exams	Saturday, April 25 - Friday, May 1

Holidays (no classes)

Martin Luther King Jr. Day	Monday, January 19
Spring Break	Saturday, March 14 - Saturday, March 21

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

Spring 2026 Schedule

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	January 12 Introduction	January 13 Meet Your TA	January 14 L1 - Integration by Parts 1	January 15 Meet Your TA	January 16 L2 - Integration by Parts 2
Due					
2	January 19 Martin Luther King Jr. Day - No classes	January 20	January 21 L3 - Trigonometric Integrals 1	January 22	January 23 L4 - Trigonometric Integrals 2
Due		Quiz 1: L1-L2	Xronos Tutorial	Quiz 1: L1-L2	Xronos 1
3	January 26 L5 - Trigonometric Substitution 1	January 27	January 28 L6 - Trigonometric Substitution 2	January 29	January 30 L7 - Partial Fractions 1
Due		Quiz 2: L3-L4		Quiz 2: L3-L5	Xronos 2
4	February 2 L8 - Partial Fractions 2	February 3	February 4 L9 - Improper Integrals	February 5	February 6 L10 - Areas and Volumes
Due		Quiz 3: L5-L7	Xronos 3	Quiz 3: L6-L8	
5	February 9 L11 - Disk and Washer Method	February 10	February 11 L12 - Shell Method	February 12 **Exam 1 (L1-L10)**	February 13 L13 - Probability
Due	Xronos 4	Quiz 4: L8-10	Xronos 5,6	Quiz 4: L9-L11	Xronos 7
6	February 16 Exam 1 Review	February 17	February 18 L14 - Work	February 19	February 20 L15 - Sequences
Due		Quiz 5: Attendance	Xronos 8	Quiz 5: Attendance	Xronos 9
7	February 23 L16 - Series	February 24	February 25 L17 - Summing Series	February 26	February 27 L18 - Integral Test
Due		Quiz 6: L14-L15	Xronos 10	Quiz 6: L14-L16	Xronos 11
8	March 2 L19 - Direct Comparison	March 3	March 4 L20 - Limit Comparison	March 5	March 6 L21 - Alternating Series Test
Due		Quiz 7: L16-L18	Xronos 12	Quiz 7: L17-L19	Xronos 13

Week	Monday	Tuesday	Wednesday	Thursday	Friday
9	March 9 L22 - Ratio/Root Test	March 10	March 11 Review for Exam 2	March 12 **Exam 2 (L11-L21)**	March 13 L23 - Power Series
Due		Quiz 8: Attendance	Xronos 14, 15	Quiz 8: Attendance	
10	March 16 Spring Break - No Classes	March 17 Spring Break - No Classes	March 18 Spring Break - No Classes	March 19 Spring Break - No Classes	March 20 Spring Break - No Classes
Due					
11	March 23 L24 - Power Series Rep. 1	March 24	March 25 L25 - Power Series Rep. 2	March 26	March 27 L26 - Taylor Series 1
Due	Xronos 16, 17, 18	Quiz 9: L22-L23		Quiz 9: L23-L24	
12	March 30 L27 - Taylor Series 2	March 31	April 1 L28 - Taylor Series 3	April 2	April 3 L29 - Power Series Summary
Due		Quiz 10: L24-L26	Xronos 19	Quiz 10: L25-L27	
13	April 6 L30 - Arc Length	April 7	April 8 L31 - Parametric Equations	April 9	April 10 L32 - Calculus of Parametric Curves
Due	Xronos 20	Quiz 11: L27-L29	Xronos 21	Quiz 11: L28-L30	Xronos 22
14	April 13 Review for Exam 3	April 14 **Exam 3 (L22-L31)**	April 15 L33 - Polar Coordinates	April 16	April 17 L34 - Graphing Polar Curves
Due	Xronos 23, 24	Quiz 12: Attendance		Quiz 12: Attendance	Xronos 25
15	April 20 L35 - Calculus of Polar Curves	April 21	April 22 L36 - Polar Area	April 23 Reading Day - No Classes	April 24 Reading Day - No Classes
Due		No Quiz		Quiz 14: L33-L35	Xronos 26, 27, 28

Saturday, April 25 - Final Exam (12:30 PM - 2:30 PM) (Cumulative L1-36)