



FLORIDA ATLANTIC UNIVERSITY

MAC 2312-011 12760
Calculus-Analytic Geometry 2
4 Credit(s)
Fall 2024 - 1 Full Term

Instructor Information

Zvi Rosen

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Course Description

Calculus with Analytic Geometry 2

Gordon Rule, computational

Prerequisite: MAC 2311 with grade of "C" or better

Continuation of MAC 2311. Logarithmic, Exponential, hyperbolic, and inverse trigonometric functions, techniques of integration, partial fractions, area, trapezoid and Simpson's rules, volume, work; analytic geometry; Taylor approximations; sequences and series; polar representation of complex numbers.

This is a General Education course.

Honors Calculus with Analytic Geometry 2 (Honors College [HC] version)

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Prerequisites/Corequisites

Prerequisite(s): The following course:

- MAC 2311 Graduate / Undergraduate (Minimum Grade of C)

Instructional Method

Fully Online Class

100% of the course is delivered online.

Required Texts/Materials

Calculus

ISBN: 9780357631478

Publisher: Cengage Learning

Edition: 9th

Calculus: Early Transcendentals

ISBN: 9780357631478

Publisher: Cengage Learning

Edition: 9th

Course Objectives/Student Learning Outcomes

Upon successful completion of the course, students will be able to solve problems in the following areas and achieve the quantitative skills required for courses requiring Calculus 2:

1. Apply antiderivatives to compute the area between curves, the volume of solids of revolution, arc length of curves, moments, center of mass, and the motions of bodies.
2. Find antiderivatives by any of the standard techniques of integration.
3. Determine the Taylor series expansion of a function, use it for numeric approximations, and compute an error bound for the approximations.
4. Apply any of the standard convergence tests to determine the convergence of a series, and compute the radius of convergence of a power series.

5. Understand the conceptual foundation of limits and the area under a curve, and their application to our disciplines.
6. Apply the process of mathematical modeling to other disciplines and real-world problem situations, using a variety of functions.

IFP General Education Outcomes:

1. Knowledge in several different disciplines
2. The ability to think critically.
3. The ability to communicate effectively.
4. An appreciation for how knowledge is discovered, challenged, and transformed as it advances.
5. An understanding of ethics and ethical behavior.

Faculty Rights and Responsibilities

Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise. To ensure these rights, faculty members have the prerogative to:

- Establish and implement academic standards.
- Establish and enforce reasonable behavior standards in each class.
- Recommend disciplinary action for students whose behavior may be judged as disruptive under the Student Code of Conduct [University Regulation 4.007](#).

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Course Evaluation Method

Course Grade:

Homework / Worksheets	35%

Three Midterm Exams	45%
Final Exam (cumulative)	20%

Worksheet/Homework Assignments:

For each section of the textbook, students will receive a worksheet on the Canvas Modules. Students will work on this assignment at their own pace, within the due date. Students can join the professor's office hours (on Zoom) and ask for help on the worksheet problems. Some extra credit points will be assigned to a student every time they join the office hours and have meaningful conversations with the professor. These points may be added to the following exam grade.

Included at the end of each worksheet are the assigned textbook problems for the same section. The student **MUST** complete the worksheet problems **AND** the homework problems from each section, and submit as a single pdf to Gradescope (see details about online submission in the Introduction module). There is **NO MAKEUP** for any homework/worksheet for any reasons, since all assignments will be open for students from the beginning of the semester.

Grading & Online Submission of Homework through Gradescope via Canvas:

Some worksheet/homework problems will be graded for completion while others will be graded for accuracy. Students will not be made aware of how problems will be graded ahead of time. Each worksheet/homework assignment **MUST** be submitted through online platform Gradescope (via Canvas). In this remote setting, online submissions require careful formatting. All submissions will be made as **ONE** pdf with multiple pages. You may download (or view) the template from Gradescope – you **MUST** follow the template to ensure proper grading. If you experience any submission issues, email your instructor immediately and attach your pdf to that email.

It is the **STUDENT'S** responsibility to ensure that all submissions are done completely, correctly, legibly, and on time. **ONLY** what has been submitted to Gradescope by the due date will be graded; forgotten pages cannot be added later, and uploads that did not work or are unreadable will be graded as **ZERO**. There are **NO EXCEPTIONS** for this—including the first assignment. Students are encouraged to upload assignments **EARLY** to avoid computer issues: if a student's computer won't upload an assignment at the last minute and causes the student to miss the deadline, the student will receive a **ZERO** on the assignment.

Exams:

There will be a total of 3 midterm exams (15% each), and a cumulative final exam worth 20% of the final course grade.

No books, notes, or calculators will be allowed during exams.

Exam Dates:

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EXAM 1	Friday, 09/13/2024	6:00 am - 6:00 pm EST
EXAM 2	Friday, 10/11/2024	6:00 am - 6:00 pm EST
EXAM 3	Friday, 11/08/2024	6:00 am - 6:00 pm EST
FINAL EXAM	Friday, 12/06/2024	6:00 am - 6:00 pm EST

NOTE: You will be kicked out of the exam at 6 pm EST on FRIDAY.

Exam Proctoring:

All exams and final exam will be proctored by HonorLock. You MUST follow the instructions on how to use Honorlock prior to Exam 1. You MUST watch the videos, read the information given to you in the "Introduction" Module on Honorlock. You MUST complete the "Practice Quiz" well before starting Exam 1, so you familiarize yourself with the process during the exam. Failure to do so and missing any time during an exam or not being able to complete an exam within the due date/time will NOT be a legitimate reason for a make-up or extension of due date/time.

The exams will be accessible through Canvas. There are some multiple choice questions, and they will have no partial credits. For the non multiple-choice questions, you MUST show detail, complete, legible work to support your final answer. No partial credit will be given to a problem without proper work shown, even if the answer is correct. After completing the exam, once you press "submit" and you turn off Honorlock, you will have no more than 15 minutes (at most) to submit your work as a pdf into a separate assignment called "Exam-x Work Submission". If the submission occurs after the 15 minutes time, points will be deducted from your final score on the exam. If the submission occurs 30 minutes after Honorlock shutdown, then your work will NOT BE GRADED AT ALL. There is no exception to this rule.

Important Note: This is an online course and it requires a reliable internet connection and reliable equipment. It is the students' responsibility to maintain a reliable internet connection and have reliable equipment in working condition during exams. Loss of internet access or equipment failure is not an acceptable excuse for make-ups or extensions of any assignment. There will be NO make-ups given to exams due to technical failures.

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which

is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

Attendance Policy Statement

Students are expected to attend all their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations, or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances, and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

(As an asynchronous class, attendance is only strictly required during the 12-hour exam windows. ***If you know that the exams present a scheduling conflict with religious, family or other university-excused obligations, inform the professor via e-mail right now!***)

Religious Accommodation Policy Statement

In accordance with the rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. University Regulation 2.007, Religious Observances, sets forth this policy for FAU and may be accessed on the FAU website at www.fau.edu/regulations.

Any student who feels aggrieved regarding religious accommodations may present a grievance to the executive director of The Office of Civil Rights and Title IX. Any such grievances will follow Florida Atlantic University's established grievance procedure regarding alleged discrimination.

Time Commitment Per Credit Hour

For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two (2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened,

intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

Course Grading Scale

Letter Grade	Percentage
A	100 - 94%
A-	< 94 - 90%
B+	< 90 - 87%
B	< 87 - 83%
B-	< 83 - 80%
C+	< 80 - 77%
C	< 77 - 73%
C-	< 73 - 70%
D+	< 70 - 67%
D	< 67 - 63%
D-	< 63 - 60%
F	< 60 - 0%

Grade Appeal Process

You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.
- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

[University Regulation 4.002](#) of the University Regulations contains information on the grade appeals process

Policy on Make-up Tests, Late work, and Incompletes

NO LATE HOMEWORKS will be accepted. You are encouraged to complete your homework well in advance to avoid any issues.

If exams present a scheduling conflict with religious, family or other university-excused obligations, **inform the professor via e-mail right now**. Write the exam dates in your calendar now, so that if any other conflicts arise, you can inform the professor immediately. Given that as much notice as possible is provided (minimum two days), a makeup test may be arranged.

Incompletes will not be given unless a persuasive reason is provided by the student, e.g. a documented car crash put the student in the hospital for a number of weeks at the end of the semester.

Policy on the Recording of Lectures

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

This policy is not relevant to our course, as all lectures are publicly available on YouTube.

Artificial Intelligence Preamble

FAU recognizes the value of generative AI in facilitating learning. However, output generated by artificial intelligence (AI), such as written words, computations, code, artwork, images, music, etc., for example, is drawn from previously published materials and is not your own original work.

FAU students are not permitted to use AI for any course work unless explicitly allowed to do so by the instructor of the class for a specific assignment. [\[Policy 12.16 Artificial Intelligence\]](#)

Class policies related to AI use are decided by the individual faculty. Some faculty may permit the use of AI in some assignments but not others, and some faculty may prohibit the use of AI in their course entirely. In the case that an instructor permits the use of AI for some assignments, the assignment instructions will indicate when and how the use of AI is permitted in that specific assignment. It is the student's responsibility to comply with the instructor's expectations for each assignment in each

course. When AI is authorized, the student is also responsible and accountable for the content of the work. AI may generate inaccurate, false, or exaggerated information. Users should approach any generated content with skepticism and review any information generated by AI before using generated content as-is.

If you are unclear about whether or not the use of AI is permitted, ask your instructor before starting the assignment.

Failure to comply with the requirements related to the use of AI may constitute a violation of the [Florida Atlantic Code of Academic Integrity, Regulation 4.001.](#)

Proper Citation: If the use of AI is permitted for a specific assignment, then use of the AI tool must be properly documented and cited. For more information on how to properly cite the use of AI tools, visit <https://fau.edu/ai/citation>

AI Language Specific To This Course

On exams, the use of AI to assist your work is prohibited. For homework, the use of AI to assist you is strongly discouraged, as it may prevent you from being properly prepared for exams. As a learning aid, AI may be used to check your homework answers after your completed attempt.

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual therapy, group therapy, and crisis services, to name a few - offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Student Support Services and Online Resources

- [Center for Learning and Student Success \(CLASS\)](#)
- [Counseling and Psychological Services \(CAPS\)](#)
- [FAU Libraries](#)
- [Math Learning Center](#)
- [Office of Information Technology Helpdesk](#)
- [Center for Global Engagement](#)
- [Office of Undergraduate Research and Inquiry \(OURI\)](#)
- [Science Learning Center](#)

- [Speaking Center](#)
- [Student Accessibility Services](#)
- [Student Athlete Success Center \(SASC\)](#)
- [Testing and Certification](#)
- [Test Preparation](#)
- [University Academic Advising Services](#)
- [University Center for Excellence in Writing \(UCEW\)](#)
- [Writing Across the Curriculum \(WAC\)](#)

Course Topical Outline

	Dates	Topics Covered	Sections/Exams
Week 1	8/17 - 8/23	u-Substitution & Integration By Parts	u-Sub/FTOC, 7.1
Week 2	8/24 - 8/30	Trigonometric Integrals & Substitution	7.2, 7.3
Week 3	8/31 - 9/06	Partial Fractions, Improper Integrals	7.4, 7.8
Week 4	9/07 - 9/13	Review 5.3, 5.5, 7.1-7.4, 7.8	Exam 1
Week 5	9/14 - 9/20	Area, Arc Length	6.1, 8.1
Week 6	9/21 - 9/27	Surface Area & Volume by Disks/Washers	8.2, 6.2
Week 7	9/28 - 10/04	Volume by Cylindrical Shells	6.3
Week 8	10/05 - 10/11	Review 6.1-6.3, 8.1-8.2	Exam 2
Week 9	10/12 - 10/18	Sequences, Infinite Series, Geometric Series	11.1, 11.2
Week 10	10/19 - 10/25	Integral test, p-Series, Comparison tests	11.3, 11.4
Week 11	10/26 - 11/01	Alternating series, Ratio and Root tests	11.5, 11.6
Week 12	11/02 - 11/08	Power Series	11.8, 11.9
Week 13	11/09 - 11/15	Taylor Series	11.10
Week 14	11/16 - 11/22	Review 11.1-11.10	Exam 3
Weeks 15-16	11/23 - 11/25, 12/02 - 12/06	Review 5.3, 5.5, 6.1-6.3, 7.1-7.4, 7.8, 8.1-8.2, 11.1-11.10	Final Exam

Free Tutoring at the MLC

The MLC provides the following FREE tutoring for all FAU students in their undergraduate math courses:

- IN PERSON:
 - Drop-in tutoring in the MLC GS211 during all hours of operation

- Monday – Thursday: 10am – 5pm
- Friday: 10am – 4pm
- Small group tutoring by appointment is available (check the MLC webpage for instructions)
- ONLINE: Please see <https://www.fau.edu/mlc/remote/> for available days/times and links to online tutoring. All tutoring is drop-in (no appointments are needed) and is available via Zoom.

Please go to <https://www.fau.edu/mlc/> for more information OR email mlc@fau.edu should you need further information or have questions.

Title IX Statement

In any case involving allegations of sexual misconduct, you are encouraged to report the matter to the University Title IX Coordinator in the Office of Civil Rights and Title IX (OCR9). If University faculty become aware of an allegation of sexual misconduct, they are expected to report it to OCR9. If a report is made, someone from OCR9 and/or Campus Victim Services will contact you to make you aware of available resources including support services, supportive measures, and the University's grievance procedures. More information, including contact information for OCR9, is available at <https://www.fau.edu/ocr9/title-ix/>. You may also contact Victim Services at victimservices@fau.edu or 561-297-0500 (ask to speak to an Advocate) or schedule an appointment with a counselor at Counseling and Psychological Services (CAPS) by calling 561-297-CAPS.