Calculus II

MATH-1522-501 | 4 Credit Hours | Fall 2026

Online - live sessions | Time**:** T-Th 2:00pm-3:45 pm

Instructor: Dr. Saulo Orizaga

Office: SMLC 208

Email: sorizaga@unm.edu

MECS Division Chair: Andy Taylor; Email: ataylor19@unm.edu

IMPORTANT: Hours of email communication M-F, 8:00 am to 5:00 pm.

Zoom Instructor-Led Help Sessions (Tutoring Hours) - Wednesday 4 pm-5pm or by appointment. See Zoom information at the end of this syllabus

Mode of Instruction

The lectures will be mainly via Live Zoom Sessions, occasionally we may pre-record lectures. All lecture notes will be posted on Canvas. Instructor may give reading assignments to further the understanding of a topic (re-enforce the material).

Credit-Hour Statement

This is a four-credit-hour course. Please plan for a minimum of eight hours of out-of-class work each week: 2 hours after each lecture and additional time on the weekend to finalize homework and review material.

Course Description

Continues the course of study begun in Calculus I. Covers transcendental functions, integration techniques, numerical integration, improper integrals, some differential equations, sequences, series, and applications, including Taylor series.

Course Topics

Transcendental functions, integration techniques, sequences and series, Taylor series with applications, introduction to differential equations.

Course Textbook

Calculus: Early Transcendentals, 9th Edition. ISBN: 9781337613.

Prerequisites

Calculus I (MATH 1521 or equivalent), passed with a grade of C- or better.

Place in Curriculum

This is a General Education Core requirement. It fulfills the area of Mathematics. The Essential Skills are Communication, Critical Thinking, and Quantitative Reasoning.

Student Learning Outcomes

By the end of the course, students should be able to perform:

Integration

- Determine the indefinite integrals and compute definite integrals of algebraic and transcendental functions using various techniques of integration including integration by parts, trigonometric substitution, and partial fraction decomposition.
- Compute improper integrals using the appropriate limit definitions.
- Solve problems involving separable differential equations.

Sequences and Series

- Compute the limit of sequences.
- Compute the sum of a basic series using its nth partial sum.
- Compute the sum of geometric and telescoping series.
- Determine if a series converges using the appropriate test, such as the nth term, integral, p-series, comparison, limit comparison, ratio, root, and alternating series tests.
- Determine if a series converges absolutely, converges conditionally, or diverges.

Properties of Power Series

- Compute the radius and interval of convergence of a power series.
- Compute the Taylor polynomials of functions.
- Compute basic Taylor series using the definition.
- Compute Taylor series using function arithmetic, composition, differentiation, and integration.
- Compute limits with Taylor series.
- Approximate definite integrals with Taylor series and estimate the error of approximation.
- Determine the sum of a convergent series using Taylor series.

Applications of Integration

- Compute volumes and areas of surfaces of solids of revolution.
- Compute length of curves.
- Apply integration using alternative coordinate forms and using a parameter.

For additional detail, see the department's official student learning outcomes for MATH 1522.

UNM Canvas

All course materials, communication, and grades will be posted on our Canvas course site.

Grading

Component	Weight
Written Homework	20%
Classwork	5%
Four In-Class Exams	50%
Comprehensive Final Exam	25%

Testing

There are four in-class exams and a comprehensive final. Tentative exam timing: Exam 1 (week of Week 4), Exam 2 (week of Week 7), Exam 3 (week of Week 10), Exam 4 (week of Week 14). The final exam will be given during finals week. No calculators or cell phones will be allowed for any exam. You may use a 5x7" note card (front and back) for personal notes during an exam.

If a student is unable to take an exam because of a legitimate reason, the student must make prior arrangements with the instructor.

We have no late homework policy - late homework will not be accepted. Submit at least 2 hours before the deadline to avoid submission issues. To be fair with classmates, always submit on time.

Course Grade Scale

F	D	D+	C–	C	C+	B–	B	B+	A–	A
[0,60)	[60,66)	[66,69)	[69,72)	[72,76)	[76,79)	[79,82)	[82,86)	[86,90)	[90,92)	[92,100]

Course Requirements

- Read your textbook. You are responsible for all material in the course content whether it is discussed or not. You are also responsible for the material presented in class.
- It is your responsibility to attend class, be current with homework, and take exams on time.
- Students are strongly encouraged to attend classes on time. Students are responsible for any class announcements, including but not limited to exam time and location. Attendance and participation may be included in your final grade.
- Respect your classmates and the instructor!
- Contribute to a great/wonderful class atmosphere and learning environment.

Disruptive Behavior

Disruptive behavior will result in a student being asked to leave a class meeting (or Zoom session), which will be recorded as an unexcused absence. Per the attendance policy for this class, a student will be dropped after 4 unexcused absences.

Course Materials Access

Your required digital course materials (if any) are available through My Shelf in Canvas. To access them, log in to Canvas on a browser, click Account in the left navigation menu, and select My Shelf. If this course requires physical materials, they can be picked up at the UNM Bookstore on central campus. You are automatically enrolled in the Complete option of the UNM Course Materials Access program at a flat rate of $279 per semester, which will appear on your Bursar account. If you prefer to purchase only selected materials or opt out entirely, you may change your enrollment through My Shelf in Canvas by the Registrar's Last Day to Drop Without a "W" Grade.

AI in the Classroom

In this course, I will provide you with course-level and/or assignment-level guidance for how and when to use generative AI (AI) tools for submitted work. In general, AI use is okay in this course, provided that you are able to verify and explain every step of the work it helps you produce, and that you are using it as a tool for actual learning rather than as a substitute for doing the work yourself. Submitting AI-generated content that you cannot explain, verify, or reproduce on your own is not consistent with the goals of this course and may be treated as academic dishonesty under UNM's Dishonesty in Academic Matters policy (FH D100). If you use AI in a submitted assignment, briefly acknowledge how you used it (a sentence is sufficient, e.g., "I used AI to check a series convergence test, then verified the reasoning myself"). If you are unsure whether a specific use is acceptable, please ask before submitting.

Responsible Learning and Academic Honesty

Cheating and plagiarism (academic dishonesty) are often driven by lack of time, desperation, or lack of knowledge about how to identify a source. Communicate with me and ask for help, even at the last minute, rather than risking your academic career by committing academic dishonesty. Academic dishonesty involves claiming that work created by another source (including AI) is your own original work. It is a Student Code of Conduct violation that can lead to a disciplinary procedure. When you use a resource in work submitted for this class, document how you used it and distinguish clearly between your original work and the material taken from the resource.

Thriving and Finding Support

Students are especially successful at UNM when they take advantage of support and get involved in campus and academic life. The Student Life tab on the student and instructor MyUNM login page provides direct links to well-being resources, including financial capability, mental health, food, jobs, and resource centers. The Student Life tab on MyUNM will also help you identify academic resources like peer tutoring and opportunities like study abroad. You can contact academic advisors and resource advisors for information and guidance via Student Hub on MyUNM. I look forward to providing you with information about academic opportunities related to our class and to helping you find support resources.

Academic Dishonesty

Academic dishonesty will be reported to the Dean of Students.

COVID-19 - Vaccination and Indoor Masking

COVID-19 Health and Awareness. UNM is a mask friendly, but not a mask required, community. To be registered or employed at UNM, students, faculty, and staff must all meet UNM's Administrative Mandate on Required COVID-19 vaccination. If you are experiencing COVID-19 symptoms, please do not come to class. If you have a positive COVID-19 test, please stay home for five days and isolate yourself from others, per the Centers for Disease Control (CDC) guidelines. If you do need to stay home, please communicate with your instructor; your instructor can work with you to provide alternatives for course participation and completion.

Support: Student Health and Counseling (SHAC) at (505) 277-3136. LoboRESPECT Advocacy Center (505) 277-2911 can offer help with contacting faculty and managing challenges that impact your UNM experience.

Accommodation Statement

UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is my objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact Accessibility Resource Center at arcsrvs@unm.edu or by phone at 505-277-3506.

Respectful Campus (UAP 2720 and 2740)

Our classroom and university should foster mutual respect, kindness, and support. If you have concerns about discrimination, harassment, or violence, please seek support and report incidents. Find confidential services at LoboRESPECT Advocacy Center, the Women's Resource Center, and the Arcoiris Center. UNM prohibits discrimination on the basis of sex (including gender, sex stereotyping, gender expression, and gender identity). All instructors are "responsible employees" who must communicate reports of sexual harassment, sexual misconduct and sexual violence to Compliance, Ethics and Equal Opportunity. For more information, please see UAP 2720 and UAP 2740.

Citizenship and/or Immigration Status

All students are welcome in this class regardless of citizenship, residency, or immigration status. Your professor will respect your privacy if you choose to disclose your status. As for all students in the class, family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community.

Land Acknowledgement

Founded in 1889, the University of New Mexico sits on the traditional homelands of the Pueblo of Sandia. The original peoples of New Mexico Pueblo, Navajo, and Apache since time immemorial, have deep connections to the land and have made significant contributions to the broader community statewide. We honor the land itself

and those who remain stewards of this land throughout the generations and also acknowledge our committed relationship to Indigenous peoples.

Class Disturbances

Disturbances will NOT be tolerated. A student that disturbs the class will be required to leave the class. Campus police will escort the student out of the class if necessary.

Important Notice

The instructor keeps the right to make necessary changes to the syllabus for this course during the whole semester.

Zoom Meeting Information

Saulo Orizaga is inviting you to a scheduled Zoom meeting.

Topic: Saulo Orizaga's Personal Meeting Room

Join Zoom Meeting: https://unm.zoom.us/j/8166580386

Meeting ID: 816 658 0386

One tap mobile: +13017158592,,8166580386# US (Washington DC) | +13052241968,,8166580386# US

Join by SIP: 8166580386@zoomcrc.com