

# MATH 1312

Calculus II

CRN: 20620

Term: Spring 2024

Credit Hours: 3

Instructor: Dr. Anass Bouchnita

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Instructor office: Bell Hall 202

Time and location: MW from 12 p.m. to 1:20 p.m. in Liberal Arts Building 305

Office hours: Fridays 1-3 p.m., in person and by appointment.

Drop deadline: March 28, 2024.

## Prerequisites

The course assumes that you have already taken Calculus I. In particular, the course requires good knowledge of logarithmic and exponential functions, trigonometric and hyperbolic functions, as well as how to calculate inverses, limits and derivatives.

## Course description

MATH-1312 (3 credits) continues the study of integrals, limits and differential equations started in Calculus I. Calculus II aims to provide the techniques of integrations of functions with single variables as well as some of their applications. The course also provides an introduction to infinite series and their convergence criteria, as well as polynomial approximations of elementary functions.

The tools learned in this course prepare the students to undertake more advanced courses in mathematics such as Calculus III and differential equations. The course also aims to develop the critical thinking and problem-solving skills of students. It also provides them with fundamental knowledge necessary for the study of physics and engineering.

## Course objectives

By the end of the course, the students are expected to:

- assimilate various techniques of integration
- use integrals to calculate areas and curves
- understand the concept of infinite series and determine their convergence
- approximate elementary functions with Taylor series

## Learning modules

The course consists of 14 learning modules. Each module will be covered in one week. The modules cover Chapters 7 through 9 of the textbook. However, we start with Chapter 8 as it consists of techniques of integration that we will use in Chapter 7 and 9. A typical week will consist of a lecture, a homework assignment, and sometimes a quiz or an exam. The tentative schedule of the modules is represented in Table 1.

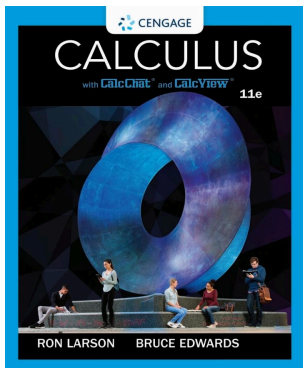
**Table 1:** Tentative schedule of the course modules and examinations. The schedule might be subject to change depending on the achievement of the learning outcomes. The final exam will be organized during the exam week.

Week / Module	Content
Jan 17	Welcome to Calculus II, basic integration rules
Jan 22 - Jan 24	Sections 8.1, 8.2
Jan 29 - Jan 31	Sections 8.3, 8.4, quiz 1
Feb 05 - Feb 07	Section 8.5, 8.7
Feb 12 - Feb 14	Section 8.8, Chapter 8 review, quiz 2
Feb 19 - Feb 21	Midterm exam 1
Feb 26 - Mar 28	Section 7.1, 7.2
Mar 04 - Mar 06	Sections 7.3, 7.4, quiz 3
Mar 11 - Mar 13	Spring break
Mar 18 - Mar 20	Section 7.5, Chapter 7 review
Mar 25 - Mar 27	Midterm exam 2
Apr 01 - Apr 03	Sections 9.1, 9.2, quiz 4
Apr 08 - Apr 10	Sections 9.3, 9.4
Apr 15 - Apr 17	Sections 9.5, 9.6, quiz 5
Apr 22 - Apr 24	Sections 9.7, 9.8
Apr 29 - May 01	Chapter 9 review, overall course review (final exam test)

## Required materials

- Textbook: Larson, Ron, and Bruce H. Edwards. Calculus 11th Edition. Cengage Learning, 2019 (the cover is shown in Figure 1).

- Calculator with graphing ability (like T-89 or T-92). Alternatively, you can use the Wolfram Alpha online plotting tool: [plot - Wolfram|Alpha \(wolframalpha.com\)](http://plot-Wolfram|Alpha(wolframalpha.com)). The calculators will not be required or allowed in the exams



**Figure 1:** The textbook cover.

## Course assignments and grading

The final grade will be calculated based on attendance and participation, five quizzes, two midterm exams and one final exam. Exams will be taken during class classes, while quizzes should be completed over Blackboard. The lowest grade obtained in quizzes will be dropped when calculating the overall grade.

The overall grade will be calculated as the weighted sum of the grades obtained in the final exam, the two midterm exams, and the five quizzes, in addition to attendance and participation. The grade will be calculated based on the final score as follows:

1000-850 = A; 850-650 = B; 650-400 = C; 400-200 = D; 200 and Below = F

The final score will be calculated as the weighted sum of the grades obtained in the following tests:

- o 300 points: Final Exam
- o 200 Points: 1st Midterm Exam
- o 200 Points: 2nd Midterm Exam
- o 150 Points: quizzes
- o 150 Points: attendance and participation

## Technology requirements

Course contents will be delivered via the Blackboard learning management system. Communication between students and the instructor will be mediated by the Blackboard discussion board or using UTEP email accounts. The student must have the last version of a stable browser like Google Chrome or Mozilla Firefox to explore Blackboard. If you still encounter any difficulties, update your browser, clear your cache, or use a different browser. The Blackboard software will be used for quizzes, surveys, announcements, and additional course material. ADA students are advised to use word-processing

software like Microsoft Office programs which is available for free via the UTEP Microsoft Office Portal. In addition, please reach out at the beginning of the course to accommodate the course for you. A tutorial for this software is available upon notice.

**IMPORTANT:** If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk as they are trained specifically in assisting with the technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

## Course communication

This is an in-person course, we will use the following communication channels to stay in contact:

**Office Hours:** My office hours will be held during the following time:

Thursdays: 1-3 p.m. Mountain Time in person.

**Email:** UTEP e-mail can be used if you have any inquiries regarding the course. I will attempt to answer within 24-48 hours. In the case the question requires a discussion, it is better to come to see me during office hours. Make sure to add the course number and use the UTEP e-mail. Also, make sure that the subject line clearly describes the inquiry. Finally, please provide your full name and university identification number at the end of the e-mail. A typical e-mail should look like this:

To: [abouchnita@utep.edu](mailto:abouchnita@utep.edu)

Cc: ...

Subject: [MATH 3446] Inquiry about homework assignment n° 6, Section 5.2

Hi ...

...

...

...

Best regards,

*First name Last time*

*ID ....*

**Announcements:** Check the Blackboard announcements frequently for any updates, deadlines, or other important messages.

## Netiquette

Online communication can be challenging because of the lack of body language and immediate feedback. Therefore, it is essential to follow some netiquette (network etiquette) guidelines to keep a positive and productive environment in the classroom. Failure to comply with these guidelines may result in disciplinary action.

- o Communication should reflect polite consideration of others' ideas.
- o Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
- o When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.
- o Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted in these online spaces is intended for classmates and the instructor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

## Attendance and participation

Attendance is necessary to complete the quizzes and exams with a satisfactory grade. Further, students are expected to read the textbook and work through the examples covered in class. Further, attendance and participation are explicitly taken into the final grade. Students are expected to attend class and arrive on time. Absent students are responsible to find out the material and homework that need to be made up. Absences due to illness or other emergencies can be justified with appropriate documentation. Participation in the class covers asking questions and participating in class discussions.

## Excused absences and drop policy

I will not drop you from the course. However, if you feel that you are unable to complete the course successfully, please let me know and then contact the Registrar's Office to initiate the drop process. If you do not, you are at risk of receiving an "F" for the course. The deadline to drop the course is March 28, 2024.

## Deadlines, late work and absence policy

Exams will be held in person during class. Quizzes will be completed over Blackboard. The exact time and modalities will be specified in separate announcements.

## Make-up work

Missed exams cannot be made up, either. Again, exceptions can be given only in extraordinary and unavoidable circumstances with reasonable proof, and with advance notice in writing. Make-up work will be given only in case of a documented exceptional emergency.

## Accommodations policy

The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of

1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship for the University. Students requesting accommodation based on a disability must register with the UTEP Center for Accommodations and Support Services (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, email them at [cass@utep.edu](mailto:cass@utep.edu), or apply for accommodations online via the CASS portal.

## Scholastic integrity

Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as one's own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. To learn more, please visit HOOP: Student Conduct and Discipline.

## Copyright statement and course materials

All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

## Course resources

UTEP provides a variety of student services and support:

### Technology Resources

**Help Desk:** Students experiencing technological challenges (email, Blackboard, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

### Academic Resources

**UTEP Library:** Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.

**Math Tutoring Center (MaRCS):** Ask a tutor for help and explore other available math resources.

## Individual Resources

**Military Student Success Center:** Assists personnel in any branch of service to reach their educational goals.

**Center for Accommodations and Support Services:** Assists students with ADA-related accommodations for coursework, housing, and internships. **Counseling and Psychological Services:** Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.