

MATH-1312 (online)

Calculus II

CRN: 12118

Fall 2022

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Office : Bell Hall 202

Office hours : Thursdays 3-5 p.m. virtually over Zoom and Fridays 9-11 a.m., in person

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, a discussion post and a zoom meeting. 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
Aug 22 - Aug 26 (M0)	Welcome to Calculus II
Aug 29 - Sep 2 (M1)	Sections 8.1, 8.2
Sep 5 - Sep 9 (M2)	Sections 8.3, 8.4
Sep 12 - Sep 16 (M3)	Section 8.5, 8.7
Sep 19 - Sep 23 (M4)	Section 8.8, Chapter 8 review
Sep 26 - Sep 30 (M5)	Midterm exam 1,
Oct 3 - Oct 7 (M6)	Section 7.1, 7.2
Oct 10 - Oct 14 (M7)	Sections 7.3, 7.4
Oct 17 - Oct 21 (M8)	Section 7.5, Chapter 7 review
Oct 24 - Oct 28 (M9)	Midterm exam 2
Oct 31 - Nov 4 (M10)	Sections 9.1, 9.2
Nov 7 - Nov 11 (M11)	Sections 9.3, 9.4
Nov 14 - Nov 18 (M12)	Sections 9.5, 9.6
Nov 21 - Nov 25 (M13)	Sections 9.7, 9.8
Nov 28 - Dec 1 (M14)	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 \(wolframalpha.com\)](https://www.wolframalpha.com)

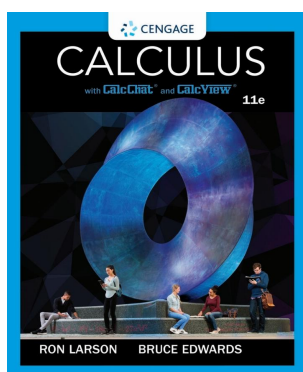


Figure 1: The textbook cover.

Course assignments and grading

The examination consists of four quizzes, two midterm exams and one final exam. Suggested homework will not be graded but hints to the answers will be explored during meetings. All exams and quizzes will be taken over WebWork. Tentative dates for exams are provided in the schedule (Table 1) while the dates for quizzes will be announced in Blackboard. There will be four quizzes in total. The lowest grade obtained in a quiz 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 three quizzes as follows:

1000-800 = A; 800-600 = B; 600-400 = C; 400-200 = D; 200 and Below = F

o 350 points: Final Exam

o 200 Points: 1st Midterm Exam

o 200 Points: 2nd Midterm Exam

o 250 Points: quizzes

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. Make sure to 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. Also download the latest version of MS teams to follow the online lectures. To follow the online lectures, you need a computer with a webcam and a microphone. You need to download the latest version of the software Microsoft Office, Acrobat Reader, Windows Media Player, and JAVA. Make sure that all software are up-to-date and that you have access to all parts of the course. ADA students are advised to use a 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 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 online, we will use the following communicate channels to stay in contact:

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

Thursdays: 3-5 p.m. Mountain Time on Zoom

Fridays: 9-11 a.m. Mountain Time in person

The link of the Zoom meetings will be provided in an announcement on Blackboard. To fully take advantage of the office hours, please contact me before and let me know about your question and schedule a meeting.

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 see me during office hours. Make sure to add the course number and use the UTEP e-mail when reaching out to me. 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:

To: abouchnita@utep.edu
Cc: ...
Subject: [MATH 1312] Inquiry about homework assignment n° 6, Section 8.3
Hi ...
...
...
...
Best regards, <i>First name Last time</i> ID

Discussion Board: You can take advantage of the discussion board to study in groups and help each other. If you have a question which you think that other students or the instructor can help you, please post it in the discussion board and start a discussion. Discussion topics will be opened for each chapter and also to exchange feedback on the course progression.

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 assignment and midterms in due dates. It is highly recommended that all students attend online lectures and participate in the discussion board. Participation covers the following aspects:

- o Preparing homework assignments.
- o Attendance of synchronous online lectures and Zoom meetings.
- o Discussion with peers on Blackboard.

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 September 7, 2022.

Lectures and zoom sessions

I will record lectures and publish them on Blackboard. I will also organize sessions to discuss the contents of the lecture and provide hints for homework assignments. It is highly recommended that you participate in scheduled Zoom sessions. Sessions and lectures will be recorded and published on Blackboard/Yuja. Participation in the lectures and sessions implies consent that your participation will be recorded and posted online. It is strictly forbidden to share the lectures, sessions, or other course contents on publicly accessible websites.

Starting from week 2, the lectures will be made available by Monday of each week. The sessions will be held over Zoom each Thursday from 9 to 10:30 am.

Students are expected to, at least occasionally, participate in these sessions with a webcam and microphone. The sessions will be recorded and provided so that they can be reviewed by classmates at a later time. Students should not record the sessions and post them to any sites outside of Blackboard.

Deadlines, late work and absence policy

Quizzes and exams will be held virtually over Webwork. The time and modalities will be specified in a separate announcement.

Make-up work

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 on 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, or email them at 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.

Class recordings

The use of recordings will enable you to have access to class lectures, group discussions, and so on in the event you miss a synchronous or in-person class meeting due to illness or other extenuating circumstance. Our use of such technology is governed by the Federal Educational Rights and Privacy Act (FERPA) and UTEP's acceptable-use policy. A recording of class sessions will be kept and stored by UTEP, in accordance with FERPA and UTEP policies. Your instructor will not share the recordings of your class activities outside of course participants, which include your fellow students, teaching assistants, or graduate assistants, and any guest faculty or community-based learning partners with whom we may engage during a class session. You may not share recordings outside of this course. Doing so may result in disciplinary action.

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, software, 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.