

MATH 2313

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Syllabus

MW 10:30-11:50 am

Fall 2021

LART 107

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Upon successful completion of the course, you will identify the components that make a finite-dimensional real vector space and its associated operations. you will construct vector-valued functions connected with parameterization of curves, surfaces, and solids. You will calculate the partial and directional derivatives of functions of several variables. Besides, you will utilize the theorems of continuity and differentiability of functions of many real variables. You will solve optimization problems applying derivative tests and the method of Lagrange multiplier.

You will sketch and parameterize regions in \mathbb{R}^n for $n = 2, 3$. Moreover, you will relate rectangular, polar, cylindrical, and spherical coordinate systems. Additionally, you will apply methods of integration such as change of the order of integration, reparameterization of regions, and change of variable to compute area, volume, work, mass, and momenta.

Calculus III is a natural continuation of calculus I and II so you must review those materials regularly.

Communication This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates, the TA, and myself. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza. If you have any problems or feedback for the developers, email team@piazza.com.

Find our class page at: [Piazza](#)

Textbook: **MATH 2313 - Calculus III, Larson and Edwards, 10th edition, Cengage Learning 2014**, Chapters. 11, 12, 13, and 14. We will skip some sections, as announced in class. The textbook is required at all class meetings. We may use WebAssing.

Required Reading: Read each section that we cover in class, both before and after class. Skim the section before class, even if you do not understand it fully, to have some idea of what we'll be doing in class. Read it more carefully after class to clarify and fill in details you missed in class.

Warning: Sometimes, we will not "cover" all the material from a section in class, but instead focus on a particular aspect of the section. In such cases, I will point out in class which other parts of the section I expect you to read on your own.

Grading We use an additive grading criterion: every assignment contains an fixed number of points, your final grade is determined by the fraction of the points you obtain over the maximum number of points available. Thus, to determine your current standing in the class, add up the points you get and divide them by the current maximum number of points. We apply the standard letter grade system based on this fraction g

- A if $0.9 \leq g \leq 1.0$
- B if $0.8 \leq g < 0.9$
- C if $0.7 \leq g < 0.8$
- D if $0.6 \leq g < 0.7$
- F otherwise

Quizzes, Homework, and Participation Suggested homework problems will be assigned most class days and will generally be discussed at the next class. Quizzes consists of problems taken from the homework. Quizzes are mostly closed-book, closed-notes. Missed quizzes **cannot** be made up. It is very important that you do your homework before it is discussed in class. You will only learn the material by doing it yourself, not by watching others do it for you. Mathematics is not an spectator's game.

Partial Exams There will be three exams, exact dates will be announced in class. Makeup exams can be given only in extraordinary and unavoidable circumstances, and with advance notice.

Final The final comprehensive exam will be on

Friday, December 10th

Policies

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.

COVID-19 Precautions: Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID 19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org

Academic dishonesty: It is UTEP's policy, and mine, for all suspected cases or acts of alleged scholastic dishonesty to be referred to the Office of Student Conduct and Conflict Resolution for investigation and appropriate disposition. See Section II.1.2.2 of the Handbook of Operating Procedures.

ONLINE ETIQUETTE As we know, sometimes communication online can be challenging. It's possible to miscommunicate what we mean or to misunderstand what our classmates mean given the lack of body language and immediate feedback. Therefore, please keep these etiquette guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider audience. This is a college-level course; therefore, all communication should reflect polite consideration of other's ideas.
- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
- 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.
- Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.
- Be reminded that some materials are subject to copyright and violations are prosecuted, so be cautious on what you share!

Attendance: You are strongly encouraged to attend class every day. I expect you to arrive for class on time and to remain seated until the class is dismissed. Students who have demonstrated lack of effort will be dropped from the course with a grade of "F". You are responsible to find out any assignment that must

be made up if you get behind. My goal is for class meetings and activities to complement, rather than to echo, the textbook, and thus for every class to be worth attending.

Drop date: The deadline for student-initiated drops with a W is **Friday, October 29th**. After this date, you can only drop with the Dean's approval, which is granted only under extenuating circumstances. I hope everyone will complete the course successfully, but if you are having doubts about your progress, I will be happy to discuss your standing in the course to help you decide whether or not to drop. You are only allowed three enrollments in this course, and students enrolled after Fall 2007 are only allowed six withdrawals in their entire academic career, so please exercise the drop option judiciously.

Courtesy: We all have to show courtesy to each other, and the class as a whole, during class time. Please arrive to class on time (or let me know when you have to be late, and why); do not engage in side conversations when one person (me, or another student) is talking to the whole class; turn off your cell phone (or, for emergencies, at least set it to not ring out loud), and do not engage in phone, email, or text conversations during class.

Disabilities: If you have, or suspect you have, a disability and need an accommodation, you should contact the Center for Accommodations and Support Services (CASS) at 747-5148, cass@utep.edu, or Union East room 106. You are responsible for presenting to me any CASS accommodation letters and instructions.

Exceptional circumstances: If you anticipate the possibility of missing large portions of class time, due to exceptional circumstances such as military service and/or training, or childbirth, please let me know as soon as possible.

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.
 - University Writing Center (UWC): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
 - Math Tutoring Center (MaRCS): Ask a tutor for help and explore other available math resources.
 - History Tutoring Center (HTC): Receive assistance with writing history papers, get help from a tutor and explore other history resources.
 - RefWorks: A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.
- 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.

Concept Map:

