

MATH 2300

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Syllabus

Streaming on MW 10:30 am - 11:50 am

Fall 2022

ASYNC ONLINE

Instructor: Julio César Urenda Castañeda

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email: pmishra@miners.utep.edu**Prerequisites:** Calculus I (MATH 1411). This is a mathematical maturity requirement.**Course Objectives:** Upon completing the course, you will know and apply the basic algebra of sets and logic.

You will identify and use common classes of relations. You will know the basic properties of arbitrary functions. You will solve counting problems involving combinations and permutations, including counting problems with restrictions. You will know graph theory's basic definitions and theorems and model problems using graphs and their properties. You will know the classical graph and tree processing algorithms. This class will probably be quite different from other math classes you have taken in at least two important ways. First, in contrast to calculus and related courses, the objects under consideration are (as the course title suggests) discrete, not continuous. This has the advantage that you can often explicitly list all the pieces (try listing all the function values of a continuous function!), but the disadvantage of not having continuity to "tie" things together nicely. Second, although there is still a lot of problem-solving, the problems and their answers have a very different flavor: the problems are not equations to be solved, and the answers often are not even numbers. We also may spend more time explaining why a particular solution works than finding the solution.

Required Textbook

Discrete Mathematics by Dossey et. al. 5th Ed.. The core of the course covers chapters 2, 4, and 8, plus selected sections of chapters 5 and 9. The 4th may also be used, but you must check the corresponding sections.

Supplementary Materials

A different perspective of the material helps the learning process. The following two books are highly recommended:

Discrete Mathematics an Open Introduction by Levin 3rd Ed. is freely available; see the following [link](#).

Discrete Mathematics: Essential and Applications by Ali Grami. This book is accessible online and free to UTEP students via UTEP Library.

Required Reading: Read each section we cover in class before and after. 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 the 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

Grades are communicated to students promptly. It is the student's responsibility to keep track of and compile them. Your semester grade will be based on homework assignments, quizzes, class participation, one partial exam, and a final exam.

- 40% Homework
- 30% Exams (three partial exams and one final exam)

- 20% Quizzes
- 10% Class participation (active participation in class and completion of any graded assignment)

Quizzes, Homework, and Participation Suggested homework problems will be assigned most class days and will generally be discussed at the next class. Quizzes consist of problems taken from the homework and readings. Missed quizzes **cannot** be made up. You must do your homework before the due date. You will only learn the material by doing it yourself, not by watching others do it. Mathematics is not a spectator's game.

Partial Exams There will be three exams, with exact dates 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

Monday, Dec 5 th

Technology Requirements Ensure your UTEP e-mail account is working and you have access to the Web and a stable web browser. Google Chrome and Mozilla Firefox are the best browsers for Blackboard; other browsers may cause complications. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need **access** to a computer/laptop, scanner, webcam, and microphone. You will need to download or update the software: Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and can access all course parts.

If you do not have word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook, and more) for free via UTEP's Microsoft Office Portal. Click the following link for more information about Microsoft Office 365 and follow the instructions.

IMPORTANT: If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk, as they are explicitly trained 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!

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 circumstances. Using 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 following 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, 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 feel unwell, please let me know as soon as possible so 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 support you and help communicate with your professors. The Student Health Center is equipped to provide COVID-19 testing.

The Centers for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks 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 academic 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 or 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 the audience. This is a college-level course; therefore, all communication should reflect polite consideration of others' ideas.
- Respect and courtesy must be provided to classmates and 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 should be private and confidential. Whatever is posted in these online spaces is intended for classmates and professors 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 about what you share!

Attendance: You are strongly encouraged to attend the live sessions or watch the recordings. Students who have demonstrated a lack of effort will be dropped from the course with a grade of "F". You are responsible for finding out any assignment that must be made up if you get behind. My goal is for class meetings and activities to complement, rather than echo, the textbook and, thus, for every class to be worth watching.

Drop date: The deadline for student-initiated drops with a W is **Oct 28th**. 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 during class. Please arrive at 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 not to 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 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 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, 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 various counseling services, including individual, couples, and group sessions, as well as career and disability assessments.

Concept Map: