

**THE UNIVERSITY OF TEXAS AT EL PASO**  
**COLLEGE OF SCIENCE**  
**DEPARTMENT OF MATHEMATICS**

Course #: MATH 3323-16817  
Course Title: Matrix Algebra  
Credit Hrs: 3  
Term: Fall 2019  
Course Meetings & Location: LART 102, TR 12:00 pm – 01:20 pm  
Prerequisite Courses: MATH 1312: students are assumed to be proficient on all prerequisites  
Instructor: Dr. Luis Valdez-Sanchez  
Office Location: Bell Hall 222  
Contact Info: Phone # (915) 747-6766  
E-mail address: [lvsanchez@utep.edu](mailto:lvsanchez@utep.edu)  
Fax # 747-5761  
Office Hrs: MW 12:30 – 01:20 pm, TR 01:30 – 02:20 pm or by appointment.  
Textbook(s), Materials: Required: *Introduction to Linear Algebra*, Fifth Edition, by Johnson-Riess-Arnold, Addison Wesley  
Suggested: *A first course in Linear Algebra*, by Robert Beezer; free textbook, download at <http://linear.ups.edu/>  
*Linear Algebra*, by Jim Hefferon; free textbook/answers, download at <http://joshua.smcvt.edu/linearalgebra/>  
Course Objectives: This is a first course in Linear Algebra which introduces the theory and concepts of matrix algebra, including systems of linear equations, matrices, determinants, eigenvalues and eigenvectors, diagonalization, vector spaces and linear transformations. Chapters 1, 3, and 4 will be covered in detail.  
Course Activities & Assignments: More emphasis than usual on proofs and verification of statements will be necessary in order to make sense of procedures. For each lecture you will be expected to spend around 2 hrs reading the textbook and working on hw outside of class. Homework for each section is suggested but not collected. Rather than just checking answers for the hw in the back of the book, you should read, digest and understand the content of each section and the discussion given in lecture before attempting the problems. Treat each topic as if you were meeting it for the first time, making sure to understand each day's material before the next class meeting.  
Solutions to all quizzes and exams and other announcements will be posted in BlackBoard. **See below for more instructions on Hw and quizzes.**  
Occasional class announcements (midterm dates, corrections) will be distributed by email. You are responsible for regularly checking your email account registered in GoldMine.

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Assessment of Course Objectives: There will be two midterm exams and a comprehensive final. Unannounced quizzes on material coming from Hw problems and the examples discussed in the textbook/lecture will be regularly given in class.

No calculators may be used during any quiz or exam.

No bathroom breaks will be allowed during any quiz/exam (medical conditions or dire circumstances excluded).

Course Schedule -- Target midterm dates: Midterm 1 (Ch 1) TBA, Midterm 2 (Ch 3) TBA.  
-- **The final exam on Tuesday Dec 10, 01:00 – 03:45 pm will be comprehensive and include material from chapters 1, 3, and 4.**  
-- Sep 2 Labor Day – University Closed  
-- Nov 1 Drop/Withdrawal Deadline: **No drops will be authorized after this date.**  
-- Nov 28 – 29 Thanksgiving Holiday – University Closed  
-- Dec 6 Dead Day

Grading Policy: Each midterm is worth 25%, quizzes are worth 10%, and the final exam is worth 40%. Grades will be assigned as follows:  $A \geq 90$ ;  $B \geq 80$ ,  $C \geq 70$ ,  $D \geq 60$ ,  $F < 60$ . The course grade will be the average grade of midterms, quizzes and final, or a C if the final exam grade is  $\geq 70$  and the average is  $< 70$ .

Academic performance in this class will be the only factor used in determining course grades and will be based exclusively in the evaluation items indicated above.

In order to be granted a grade of Incomplete, a student must have completed at least 60 percent of the coursework with a grade of C or better. An Incomplete grade cannot be granted to anyone who has taken the final exam.

Make-up Policy: There are no make-ups for quizzes or the final exam. In case of missing a midterm exam due to an emergency, contact me as soon as possible to discuss a possible make-up schedule (depending upon officially documented and academically valid reason for missing exam). If a make-up cannot be given, the grade for the missed midterm or final will be 0.

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Attendance Policy: -- Students are expected to arrive to all lectures on time, participate in class discussions and stay for the entire class period. If you must leave early for any reason, please inform me beforehand; do not walk away from a lecture in progress.

-- No extra time will be provided when arriving late to any quiz or midterm.

-- Students are expected to read the textbook prior to each class meeting and be familiar with the current topic of discussion outlined in the course schedule.

-- Taking into account the volume of information to be covered and the amount of homework assigned in this course, you should expect having to devote a minimum of 12 hours a week of work outside of class.

-- If you are unable to attend class, you are still responsible for the material covered during the missed class period. Ask any of your classmates for notes, as examples discussed in class may be used in tests later.

-- A student may be dropped by the instructor prior to the drop deadline for excessive absence, neglect, or lack of effort (ie after missing 3 consecutive quizzes or 1 midterm without providing an academically valid excuse).

Academic Integrity Policy The University policy is that all suspected cases or acts of alleged scholastic dishonesty must be referred to the Dean of Students for investigation and appropriate disposition. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Each student is responsible for notice of and compliance with the provisions of the Regents' Rules and Regulations, which are available for inspection electronically at

<http://www.utsystem.edu/bor/rules/homepage.htm>

All students are expected and required to obey the law, to comply with the Regents' Rules and Regulations, with System and University rules, with directives issued by an administrative official in the course of his or her authorized duties, and to observe standards of conduct appropriate for the University. A student who enrolls at the University is charged with the obligation to conduct himself/herself in a manner compatible with the University's function as an educational institution.

Any student who engages in conduct that is prohibited by Regents' Rules and Regulations, U. T. System or University rules, specific instructions issued by an administrative official or by federal, state, or local laws is subject to discipline, whether such conduct takes place on or off campus or whether civil or criminal penalties are also imposed for such conduct.

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**Civility Statement:** Please do not use cell phones, pagers, iPods, MP3 players, blue tooth devices, etc. during class. Cell phones and pagers should be set to silent or vibrate, and any calls should be taken outside of class. Please do not wear headsets or blue tooth devices during class. Please don't talk in class. Active participation in class is expected.

**Disability Statement:** If a student has or suspects she/he has a disability and needs an accommodation, he/she should contact The Center for Accommodations and Support services (CASS) at 747-5148, [cass@utep.edu](mailto:cass@utep.edu) or directly in Room 106 Union East Building.

The student is responsible for timely presenting to the instructor any CASS accommodation letters and instructions and setting up an appointment to discuss the details in person. No action will be taken otherwise.

**Military Statement:** If you are a military student with the potential of being called to military service and/or training during the semester, please contact me by the end of the first week of class.

### Professional Development Workshops

**UTEP Students:** We invite you to come to one of our workshops where you will learn how you can enhance your résumé, hone your interview skills, negotiate your next job offer, or find an internship. Most sessions are 50 minutes and are scheduled throughout the week at different times. So what do you say? Put your phone down and come meet the great staff at your Career Center!

### **Suggested homework problems instructions.**

1. The textbook homework problems will not be collected; the list is provided as an example of a minimal set of problems to be attempted.
2. You should aim at practicing on as many textbook exercises as possible, even those that do not appear in the list of suggested problems.
3. Work on homework exercises on your own before seeking help in solving them, otherwise you will not benefit as much from this activity.
4. Ideally, you should ask any questions about the homework problems in person, either in class or during office hours. Otherwise, after working on a problem for some time on your own, you ask me a question via email and include a scan of your work.
5. More solved examples and exercises can be found in the free Suggested Textbooks given in the syllabus or in BlackBoard under Other Resources.

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### Take-home quizzes instructions.

1. The goal of the quiz problems is to help you diagnose how well you understand the relevant methods and ideas. They are also designed to provide a good idea of the type of problems that will appear in the midterms and final exam. It is therefore very important that you are well prepared before attempting each quiz.
2. The rules of an in-class quiz will be provided in each quiz: no notes/textbook/calculator are allowed, should not be in contact with any electronics, definitely no collaboration with anyone.
3. Each take-home quiz should be treated almost as an in-class quiz, except that you may spend as much time as needed working on the quiz and you may consult your notes/textbook. **Still, no collaboration with anyone (me included, as well as no online help) is allowed.**
4. In order to perform well on a quiz it is strongly suggested that the quiz problems be attempted after reading each textbook section, practicing on the textbook exercises and reviewing the lecture examples and discussion.
5. As a rule of thumb, each quiz problem should be solved in 10-12 minutes once enough practice problems have been attempted successfully. Taking too long to solve a problem (15-20 mins) is an indication of lack of preparation or insufficient proficiency on prerequisites.
6. Each take-home quiz will be posted in BlackBoard on the same it is given in class, and the quiz will be due at the beginning of the next class.
7. **All take-home quizzes must be turned in person during class (even if class was missed the day the quiz was distributed); no late or emailed submissions will be accepted.**
8. Solutions to all quizzes and midterms will be posted in BlackBoard shortly after they are turned in. It is your responsibility to compare your quiz/midterm answers with the posted solutions and make corrections when necessary so as to not repeat any quiz mistakes on an exam.
9. **Quizzes submitted after solutions are discussed in class or solutions are posted will be considered late.**