MATH 2B CRN 39308 SECTION 50Z

Linear algebra and selected topics of mathematical analysis.

Instructor: **Dr Zack Judson**

Drop In Hours: Thursday 11:00-2:00 by appointment via Zoom

Email: judsonzack@deanza.edu

Prerequisite: Math 1D or an equivalent course

Required Materials

1. “Elementary Linear Algebra Application Version, 12th Edition" by Howard Anton
2. Calculator: TI83/84 graphing calculator or similar (something capable of handling matrices)

Student Learning Outcomes

1. Construct and evaluate linear systems/models to solve application problems.
2. Solve problems by deciding upon and applying appropriate algorithms/concepts from linear algebra.
3. Apply theoretical principles of linear algebra to define properties of linear transformations, matrices and vector spaces.

Grading Scale

Due to the complexity of the material the grading scale we will use is as follows:

A : 90−100 B+: 80−84 C+: 67−69 D : 50−59 F : 0−49
A− : 85−89 B : 75−79 C : 60−66
B− : 70−74

Accommodations

Those of you who need additional accommodations, due to disability, campus-related activities, or some other reason, please meet with me during the first two weeks of class to discuss your options.

Modality - Asynchronous

This is an asynchronous course. That means that you do not need to complete portions of the course at a set time. However, that is not the same as a self-paced course. There is material that you must complete by the end of every week. Everything under a given week is due by 11:59 pm on Sunday of that week. It is best not to think of this time as a due date. Rather, you should think of this as the point of no return, the time when there is no longer any opportunity to further work on those assignments.

At the end of every unit there will be a midterm. The midterms will be one hour in length and must be taken at some time during their assigned day. Please note those dates below. If there is some reason you cannot take the exam at any time during the given day, contact me immediately, during the first week of class, as there may or may not be a way to work things out.

Substantive Interaction

A major trade off between an in person class and an asynchronous online class is the ability to check and see if you have questions. To make up for this, I will spend two hours on Fridays responding to discussion boards. This will give me the opportunity to check in on things like the group work for the week, the lectures and possibly even the homework assignments. There will also be a self-reflection after each of your quizzes. For you, this means an easy 5 quiz points. For me, this means an opportunity to address any confusion you might be having.

Assignments

Lectures

Each week there will be a few pages of lecture videos that you will need to watch. Each page of videos will contain about one hour of videos. After watching each page of videos, you will need to answer questions in a Lecture Check. Since, the purpose of these assessments is to reflect the time spent watching the lectures, alternate correct answers will not be accepted, only the answer reflected in the videos. These Lecture Checks will represent 10% of your grade.

Exams

Three exams will be given with no make-ups. Each exam will be worth 10% of your grade. The bulk of your grade on the exam will be based on the work you show to justify your answers. You will have one hour to complete the exam. The exam will provide you with a space to type in your answers. At the end of the exam, you will be given 15 minutes to upload a pdf of your work for the exam. Only questions answered on the exam will be graded. The exams must be taken on the following dates

- Midterm 1 - Tuesday, February 5
- Midterm 2 - Tuesday, February 26
- Midterm 3 - Tuesday, March 19

Final Exam

A two-hour comprehensive final exam will be given on Tuesday, March 26. The final will represent 30-40% of your grade.

Quizzes

You will have 30 minutes for each quiz. For each quiz, you will need to create and upload a pdf of your solutions. The best way to create a pdf of your work is to do the work by hand. Then take a picture of your work. You can convert your picture to a pdf using any number of free apps.

Quizzes will represent up to 10% of your grade. However, all points that are missed on quizzes will be replaced by your final. For example, if you average a 60% across all quizzes and then score a 75% on the final, you will earn back 75% of the points you had missed on quizzes so that your final quiz score will be a 90%. In this way quizzes are designed to be a place where you can make mistakes and learn from them.

In addition, there will be self-reflection quizzes at the end of each week. These quizzes will give you the opportunity to check-in and ask questions about how the lectures, in class quizzes, and other parts of Math 2B are going. They are designed to focus on your affective learning. These quizzes will be graded out of 5 points.

Labs

Throughout the quarter, we will have lab assignments. The intention behind lab assignments is to encourage students to think more deeply about the material. For this reason, the labs often cover topics you haven't seen in the course. By the time each lab is assigned you will have learned all of the skills you need in order to complete the assignment.

These labs will be worked on in groups of three or four. Although every student must turn in their own lab assignment, **you will be graded as a group on the assignment**. If you do not submit a final draft you will receive a zero for the lab, but your group will not be penalized.

For each Lab you will need to join a lab group. There will be a discussion board on which you will need to document your interactions with your group. This discussion will be worth 10 points on your lab grade.

A week after a lab is assigned, we will have a rough draft of the lab due. Each lab group need only submit a single copy of the rough draft. I will be checking that everyone was involved in the rough draft on your discussion board. The rough draft will be worth 10 points and will be graded solely based upon attempting all parts of the lab and asking meaningful questions about those parts you do not know how to do up to that point. The point of the rough draft is to ensure that you receive feedback and have a better idea of what you need to do for the lab.

The following week, the final draft will be due. The final draft will be worth 100 points.
Labs will represent 10% of your grade

Discussions

In my experience, every math class understands the lecture right up until the point they have to work through a problem. To help facilitate this process, each week we will have a group work assignment. The first week, your group work teams have been randomly assigned. In future weeks, you will select your own group work teams. On the discussion board you will need to post your work in progress so that your team has the opportunity to comment on your work. You will be graded based on your active participation. You are required to post work in progress, to ask and answer questions of one another and to comment on the work posted by everyone else in your group. You are also required to post solutions to all questions by the end of the week.

In addition, we will have classroom discussion boards each week to share thoughts and questions on the material we are covering. These will be graded based on the frequency and quality of your interactions with the classroom community.

Group Work will account for 10% of your total grade.

Homework

Homework will not be a part of your grade in this course. Some of you will read that sentence and have the mistaken impression that there will be no homework. The only way we can learn mathematics is by practicing mathematics. It is best to think of the homework assignments I assign as minimal problem sets. Students are encouraged to go beyond them. It is recommended that you complete all homework problems week, before taking the quiz for the week.

Student Learning Outcome(s):

• Construct and evaluate linear systems/models to solve application problems.

• Solve problems by deciding upon and applying appropriate algorithms/concepts from linear algebra.

• Apply theoretical principles of linear algebra to define properties of linear transformations, matrices and vector spaces.

Office Hours:

TH	11:00 AM	01:00 PM	Zoom,By Appointment	
T,W	08:30 AM	09:20 AM	In-Person	G5