

AMS 27: Mathematical Methods for Engineers.

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TA-AMS27: Yuzheng Zhang
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TA-AMS27L: Nikhil Bobb
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Required Text

Edwards, C. Henry and Penney. David E., *Differential Equations & Linear Algebra*, Second Edition. Pearson Prentice Hall. (Homework problems are chosen from this book).

Optional Text for Linear Algebra

Lay, David, *Linear Algebra and its applications*, Addison-Wesley, 2003.

Optional Text for AMS27L

Pratap, Rudra, *Getting started with MATLAB*, Oxford University Press, 2006.

Lectures

Social Sciences 2 room #071. Tuesdays and Thursdays from 6:00pm to 7:45pm.

Sections

Section 01A is held at Social Sciences 1 room #145 on Wednesdays from 8:00am to 9:10am.

Section 01B is held at Social Sciences 1 room #145 on Wednesdays from 5:00pm to 6:10pm.

Section 01C is held at Social Sciences 1 room #145 on Thursdays from 10:00am to 11:10am.

Section 01D is held at Social Sciences 2 room #159 on Thursdays from 08:30am to 9:40am.

Sections are **not** optional. They are part of the requirements to pass this course and attending them is paramount to getting a satisfactory result.

There will be a quiz during each section.

Laboratories – AMS27L

All labs meet at Jack Baskin room #109 (Computer Lab).

Lab01 meets Mondays from 7:00pm to 9:00pm.

Lab02 meets Tuesday from 2:00pm to 4:00pm.

Lab03 meets Wednesdays from 12.00pm to 2:00pm.

You have to enroll in the labs concurrently to AMS27.

There will be 4 assignments for the labs.

Responsible for labs: Nikhil Bobb.

Office hours

Tentative schedule. Please get in touch with us in case you cannot make any of the times below. Office hours are an important part of the learning process, and we want to make sure everyone has access to at least one of the office hours sessions per week.

Bruno: Fridays at Jack Baskin building, room #141 or Jack's Lounge (always check both), from 12.00pm to 1.00pm.

Yuzheng: Wednesdays at Jack's Lounge, from 12:30 to 1:30pm.

Quizzes

There will be one quiz per section; they will be very easy and short. The intention behind having them is to both reward the students for attending section and also to give everyone an idea on how well they are doing.

Quizzes will account for 10% of the final grade.

Any questions regarding quizzes should be addressed to Yuzheng.

Homework

There will be one set of homework problems per week. They are due every Friday at 2.00pm at office 146.

To the best of our abilities we will try to post the solutions in the glass showcase at Jack's Lounge. We encourage questions about grading, and if you can't find solutions posted to the problems you want, you can always ask Yuzheng to have a look at the solution manual.

Homework will account for 10% of the final grade.

Any questions regarding homeworks should be address to Yuzheng.

Lab assignments

If all the lab assignments have a score higher than 60%, that score will account for 10% of the final grade for AMS27. Given this, your final grade for AMS27 and AMS27L will be the same.

Since you will have 2 weeks to complete each assignment, all assignments will count for the final grade.

There will be a total of 4 lab assignments. Easier parts of the lab assignments will be due at the end of each lab, the whole assignment (which will typically include the harder questions) will be due later in the following dates:

- Assignment #1 due at the end of your second lab section (third week of classes)
- Assignment #2 due at the end of your fourth lab section (fifth week of classes)
- Assignment #3 due at the end of your sixth lab section (seventh week of classes)
- Assignment #4 due at the end of your eighth lab section (ninth week of classes)

Any questions regarding lab assignments can be addressed to either Bruno or Nikhil.

Midterm

Will take place on May 4th, in class, and will cover all that was taught just before the date of the exam.

It will contribute 30% to the final grade.

Official solutions will be posted at Jack's lounge, in the glass case.

Any questions regarding the midterm scores should be addressed to Bruno.

Final exam

Final exam date will take place in class on Wednesday, June 14th from 8:00 to 11:am, and will cover all that was taught during the quarter.

(Check <http://reg.ucsc.edu/soc/2062/sched.htm#Spring2006> for latest news)

The final exam will account for 40% of the final grade.

Official solutions will be posted at Jack's lounge, in the glass showcase.

Any questions about the scores on the final should be addressed to Bruno.

Final grade

It is the result of a weighted average of the grades you get in quizzes (10%), homeworks (10%), midterm (30%), final exam (40%) and the lab assignments (10%).

Passing score is 60% (with a score of at least 60% in the final exam).

If a student does not pass the computer lab portion of the course, ie. AMS27L (passing grade is 60% of the average score of lab assignments), then the student's final grade in AMS27 will be calculated in the following way: 10% from quizz scores, 10% of homework scores, 30% of midterm score, 50% of final exam score.

Course's web page

Address: <http://www.soe.ucsc.edu/classes/ams027/Spring06/>

The web page will contain the list of homework due, score list (updated weekly) and any other material related to the course. It will also contain any announcements related to the course and all the information related to it.

Protected material can be accessed by using the following information,

username: ams027 password: vault47

How to improve your chances of getting a good result in this course

Take as much advantage as possible of the **office hours**. They are a wonderful opportunity to get an almost one-to-one tutoring. I will be able to pay closer attention to you individually and therefore help you more efficiently.

Unfortunately our system still expects the students to arrive at this school with good strategies for working or studying, and the sad reality is that many times they don't. Although we are very well aware that each person is an individual and running the serious risk of sounding paternalistic, allow us to give you a few ideas on how to improve your studying of mathematics.

- Read the book. Many people give up after a first read of the book, giving in to frustration. Please keep in mind that no one expects you to understand everything on a first read. No one can do that. Most typically a student needs to read the material two to four times until he/she starts feeling comfortable with the new concepts.
- Study the examples. These are the "doors" that lead to the solution of most of the exercises. It is almost pointless to tackle homeworks and quizzes if one doesn't understand the examples. The usual procedure should be to re-read the theory in case you have difficulties with a specific example.
- Work out the problems given in the book. Feel free to do as many as you feel like. Start with the easy ones first. If you have problems, go back to the examples, maybe you just skipped something important.
- Organized work. Be organized and write down your calculations in a clean and ordered way, problem solving is much simpler if one has organized, clear calculations.
- Make full use of lectures, sections, office hours and labs. Don't be afraid to make questions. The more you interact with the teachers the more likely you will be able to absorb more knowledge. Come to us as many times as are necessary!

You can and you **should** come to us for help during any of the stages described above, but you'll be able to take more from our meetings if you have gone through the first items in this list on your own at least once.

I look at this course as a team work and the main goal of all of us is to help you learn mathematics and help you have a good final grade.

I welcome you to this course and we hope that by the end of it you feel that you have learned something useful and at the same time had some fun doing it!