



Syllabus, I: General Information

Overview:

AM 10 provides an introduction to Linear Algebra, one of the most important (and most applied) fields in mathematics. Briefly, Linear Algebra is the study of linear spaces and the linear maps between them. This somewhat vague description is due to the breadth of the field, but in this (introductory) course we will focus on very concrete topics and applications, beginning with systems of linear equations and effective methods for solving them. On the other hand, it won't take more than a few weeks for the vague description above to make more sense. For a detailed look at the topics we cover, please see the [Schedule of Lectures, Reading and Homework \(https://canvas.ucsc.edu/courses/74119/pages/syllabus-ii-schedule-of-lectures-reading-and-homework\)](https://canvas.ucsc.edu/courses/74119/pages/syllabus-ii-schedule-of-lectures-reading-and-homework).

The (free) course textbook is [Linear Algebra with Applications \(https://canvas.ucsc.edu/courses/74119/files/9300274?wrap=1\)](https://canvas.ucsc.edu/courses/74119/files/9300274?wrap=1) ↓

[\(https://canvas.ucsc.edu/courses/74119/files/9300274/download?download_frd=1\)](https://canvas.ucsc.edu/courses/74119/files/9300274/download?download_frd=1), by W. Keith Nicholson.

Lectures and discussion sections.

- Lectures are MWF, 9:00 – 11:30 am **on Zoom** ⇨ [\(https://ucsc.zoom.us/j/91033083705?pwd=1dwIAIyOagSeaj6WTcJipgPGtZfBFk.1\)](https://ucsc.zoom.us/j/91033083705?pwd=1dwIAIyOagSeaj6WTcJipgPGtZfBFk.1).
 - Attendance is mandatory in the sense that, while you won't be dropped for lack of attendance, it does **account for 5% of your grade**.
 - Regular attendance is associated with better understanding and better performance in the class (any class).
 - In any case, lectures will be recorded and posted to canvas.
 - The TA-led discussion sections are TuTh, 4:00 – 6:00 pm, also on Zoom.
 - Attendance of the TA's discussion sections is likewise not mandatory.
 - Participation in discussion sections is also linked to better understanding and better performance on exams.
 - The TAs will monitor participation, and you can earn up to 5 points of extra credit in the quarter based on your **participation**.
 - Participation means attending and **contributing** to the discussion.
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Weekly Modules:

- The material we discuss each week is collected in a canvas module. This includes
 - Links to the (recorded) lectures.
 - Any additional reading material that I decide to assign.
 - A link to the weekly Canvas discussion.

- A link to the weekly homework quiz.
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Canvas Discussion fora:

1. There is the [Ask the Instructors \(https://canvas.ucsc.edu/courses/74119/discussion_topics/601633\)](https://canvas.ucsc.edu/courses/74119/discussion_topics/601633) Canvas discussion for questions to the instructors about the material, grading, scheduling, etc.
 2. There are 5 weekly Canvas discussions for discussing the week's mathematical material *amongst yourselves*. You can think of these discussions as always-on study groups.
 - You can post questions/comments about the quizzes, homework or the lectures.
 - You can answer other students' questions.
 - The TAs and I will monitor the discussions and contribute as necessary, but they are meant primarily for you (the students) to help each other master the material.
 - You can earn up to 5 points of extra credit for **constructive** contributions to the weekly Discussions.
 - What counts as "constructive" is up to me (but generally means discussing the mathematical material of the course).
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Reading and Homework:

Reading and homework assignments are listed in the [Schedule of Lectures, Reading and Homework \(https://canvas.ucsc.edu/courses/74119/pages/syllabus-ii-schedule-of-lectures-reading-and-homework\)](https://canvas.ucsc.edu/courses/74119/pages/syllabus-ii-schedule-of-lectures-reading-and-homework).

- The lectures are prepared with the assumption that you have done the required reading (at least once) before the lecture.
 - I will also post the slides for the lectures the day before each lecture, and you should read these before the lecture as well.
 - ***If you don't read ahead, then the lectures will be harder to follow.***
 - The homework is part of the reading (perhaps the most important part). Use the homework to assess your understanding.
 - Homework is ***not collected or graded***, but the more you do, and the more seriously you do it, the better you will master the material (which will likely have a positive effect on your quiz and exam scores).
 - Questions and answers about homework problems are an excellent source of (constructive) contributions to the weekly discussion boards.
 - Solutions to the odd-numbered homework problems are collected in an appendix of the book.
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Homework Quizzes:

- There will be one homework quiz each week on Canvas.
 - So, 5 quizzes total.
- Each homework quiz is worth 12 points.

- So, 60 possible points, total.
 - To earn a total Quiz Score of 100% for the quarter, you need 40 points (more details below).
 - Homework quizzes are all open book and open notes (and open Canvas).
 - Quiz questions will be based on the week's reading, lectures and homework.
 - You may (in fact you are encouraged to) collaborate with your classmates on the quizzes.
 - Each homework quiz opens on Tuesday in the morning and closes on Saturday at 11:59 pm.
 - Once you start a quiz, you will have two hours to complete it.
 - You have three tries for each quiz, and your highest score is recorded.
 - I recommend attempting each quiz at least once **before** Thursday.
 - There are **no make-up quizzes** (or extensions). For any reason. . . **Ever**.
 - There are **no exceptions** to the rule above. **None**. So don't ask.
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Exams

- There will be **two** midterm exams on Canvas — one on the weekend at the end of week 2 and one on the weekend at the end of week 4.
 - The midterms will be open from 9 am on Saturday morning until 11:59 pm on Sunday night.
 - Once you begin a midterm, you will have three hours to complete each exam – so start by 8:59 pm on Sunday (if you want the full three hours).
 - Midterms will not be proctored.
 - The final exam will be on Canvas on Friday, 7/26, from 9:00 – 12:00 (usual class-time plus 30 minutes).
 - The Final **will be proctored** – read this guide about what you need to do to prepare for this.
 - Read this guide about best practices for Canvas exams. Read it **before the first midterm**.
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Your Grade.

Your overall score in the class is calculated as follows:

- **Lecture Attendance** (<https://canvas.ucsc.edu/courses/74119/pages/gc8022a06e6ce2288250646d4c4bc42a2>) contributes up to 5 points to your overall score.
- **Homework Quizzes** contribute up to 20 points to your overall score.
 - Quiz contribution = half the sum of the quiz points you earned, but no more than 20.
- **Midterm exams** contribute up to 40 points to your overall score.
 - Each exam is out of 20 points.
 - Midterm contribution = $1.4 \times (\text{higher score}) + 0.6 \times (\text{lower score})$.
- **Final exam** contributes up to 35 points to your overall score.
- **Extra Credit:**
 - Up to 5 points for contributions to the weekly discussions on canvas.
 - Up to 5 points for participation in TA discussion sections.

Letter grades are assigned according to the ranges:

Overall Score	Letter Grade
98 - 100	A+
93 - 97	A
90 - 92	A-
88 - 89	B+
83 - 87	B
80 - 82	B-
75 - 79	C+
65 - 74	C
60 - 64	C-
50 - 59	D
0 - 49	F

Important

- ***To pass the class:***
 - ***Your total score from the 10 quizzes and 4 exams (without attendance and EC) must be at least 60.***
 - ***You have to take the final exam.***
- There is no curve – your letter grade depends only on your total score (not on how you do relative to the class).
- If your total score is on the border between two grades, then...
 - You get the higher grade if the final exam brought your total score up.
 - You get the lower grade if the final exam brought your total score down.
- If you are worried about your grade (which is natural), and even if you are not, take advantage of all the "easy" points:
 - Attendance, homework quizzes and extra credit, are worth up 35 points together.
- ***Ignore*** the total score in the Canvas grade book — ***Canvas does not combine the raw scores correctly.***
- If you are taking the class P/NP, you need C or better to pass. In general, a C- is not a passing grade for prerequisite classes.

More Important

If you are feeling overwhelmed or lost, ask for help early in the quarter. The entire instructional staff (me,

TAs and tutors) is here to help you. The earlier you ask for help, the more we can help you.

Academic integrity

Academic integrity is a core principle of the UCSC community, and we expect all of our students to hold themselves to the highest standard. To quote from the [UCSC academic integrity page \(https://registrar.ucsc.edu/navigator/section1/academic-integrity.html\)](https://registrar.ucsc.edu/navigator/section1/academic-integrity.html):

Academic integrity is the cornerstone of a university education. Academic dishonesty diminishes the university as an institution and all members of the university community. It tarnishes the value of a UCSC degree.

All members of the UCSC community have an explicit responsibility to foster an environment of trust, honesty, fairness, respect, and responsibility. All members of the university community are expected to present as their original work only that which is truly their own. All members of the community are expected to report observed instances of cheating, plagiarism, and other forms of academic dishonesty in order to ensure that the integrity of scholarship is valued and preserved at UCSC.

With this in mind. . .

- All students are expected to do their own work on the exams: getting or giving help to other students during exams is **strictly forbidden**.
- On the other hand, the exams are open notes and open book. For some problems you will be allowed (and encouraged) to use Matlab.

Consequences for breaking these rules:

- In most cases, students who break one or more of these rules will. . .
 - **. . . receive a score of 0 on the (entire) exam in question, and**
 - **. . . be reported to their college provost for further disciplinary action (which may range from a warning to suspension and even expulsion).**
- In some cases (depending on the severity of the infraction), students who break these rules will receive an automatic failing grade in the class.
- For more information, please visit the UCSC page on [Academic Dishonesty \(https://ue.ucsc.edu/academic-misconduct.html\)](https://ue.ucsc.edu/academic-misconduct.html).

"But I don't think that I can pass this class without breaking the rules..."

You can, and we are here to help.

I know from years of experience that every student in this class can succeed with enough effort and some help. How much effort you put in to this course is up to you. Generally speaking, the more the better: **If you want to earn an A, [the recommendation, \(https://eop.ucsc.edu/resources/Study%20Formula.html\)](https://eop.ucsc.edu/resources/Study%20Formula.html) for a 5-unit course at UCSC is (at least) 15 hours a week of studying time (including lectures and sections).** In any case, the TAs and I are here to help you succeed. We can help you with the material and we can suggest learning strategies.

Also, please remember that *all students are graded the same*, as described in the rubric above. We don't adjust grades based on what you want or need. If you need a specific minimum grade in order to declare your major, or to maintain your GPA at a certain level to keep a scholarship, then you need to *earn that grade*, and we are here to help you do that.

But the first step has to be yours. If you are feeling lost, stressed out, or worried about your grade, then please ask us for help. And don't wait — the deeper we get into the quarter, the fewer opportunities there are to improve your standing in the class. If you feel uncomfortable (or shy) about approaching us, then perhaps you can find a like-minded student in the class, and approach us together.

Support for students with disabilities:

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me by email, preferably within the first two weeks of the quarter. At this time, I would also like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at [831-459-2089](tel:831-459-2089) or by email at [drc@ucsc.edu \(mailto:drc@ucsc.edu\)](mailto:drc@ucsc.edu).

Support for students with other difficulties:

While we sincerely hope that you will be able to pursue your studies peacefully and worry-free, we are aware that in some cases difficulties happen that are beyond your control. If that happens, here are several campus resources that you may want to consider contacting:

- UC Care: <https://care.ucsc.edu/who-we-are/about-care.html> [_ \(https://care.ucsc.edu/who-we-are/about-care.html\)](https://care.ucsc.edu/who-we-are/about-care.html)

which is a confidential space to discuss issues of dating violence, sexual assault and stalking.

- Slug Support: <https://deanofstudents.ucsc.edu/slug-support/program> [_ \(https://deanofstudents.ucsc.edu/slug-support/program\)](https://deanofstudents.ucsc.edu/slug-support/program)

where you can ask for help on many practical issues, including dealing with a financial crisis, problems with your living situation, computers, books, etc.

- CAPS: <https://caps.ucsc.edu> [_ \(https://caps.ucsc.edu/\)](https://caps.ucsc.edu/)

which provides counseling and psychological services to students

Title IX reporting disclosure:

Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the Campus Advocacy Resources & Education (CARE) Office by calling (831) 502-2273. In addition, Counseling & Psychological Services (CAPS) can provide confidential, counseling support, (831) 459-2628. You can also report gender discrimination directly to the University's Title IX Office, (831) 459-2462. Reports to law enforcement can be made to UCPD, (831) 459-2231 ext. 1. For emergencies call 911.

Faculty and Teaching Assistants are **mandated reporters**: we are required under the [UC Policy on Sexual Violence and Sexual Harassment \(https://policy.ucop.edu/doc/4000385/SVSH\)](https://policy.ucop.edu/doc/4000385/SVSH) to inform the Title IX Office should we become aware that a student has experienced sexual violence or sexual harassment.