

Math 374 - Linear Algebra, Fall 2021
Section 04 (CRN 43717): MoWe 2:30-3:45PM in ACD 304

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Office Hours: TBA, and by appointment.

Course Website: Course-related information will be posted to the class Cougar Courses page, accessible at <https://cc.csusm.edu>.

Course Description and Learning Objectives: From the catalog: “*Systems of linear equations, vector spaces, independence, bases, dimension, orthogonality, least squares, determinants, eigenvalues and eigenvectors, positive definiteness, computation, and linear programming. Combines theoretical ideas with hands-on experience using appropriate computer software packages.*”

This course will cover theoretical and applied topics from Linear Algebra, such as solving systems of linear equations, matrices, determinants, vectors and vector spaces, linear independence, bases, dimension, orthogonality, and, time-permitting, eigenvalues and eigenvectors. Upon successful completion of this course, students will be able to: solve a linear system using Gauss-Jordan elimination, perform algebraic operations with matrices, calculate the determinant of a matrix, identify whether a set is a subspace of a vector space, determine whether a set of vectors in Euclidean space is linearly independent, and write (simple) mathematical proofs.

Prerequisites: The listed prerequisite is our first-semester calculus course, Math 160, *Calculus with Applications I*. The essential prerequisite, though, is mathematical experience: if you haven’t taken an additional math course beyond Math 160 (such as Math 162 or Math 270), this course will be very challenging.

Course materials: The course textbook is *Elementary Linear Algebra with Applications, 12th Edition*, by Howard Anton and Chris Rorres. The required material is an access code to WileyPLUS, the publisher’s platform for the textbook. WileyPLUS includes complete electronic access to a hyperlinked copy of the textbook, and will be hosting the online homework component of this course.

The cost for an access code is \$69 if purchased directly from the WileyPLUS website, with the option to rent a paper copy for the semester for an additional \$30. **Instructions for registering for the WileyPLUS course will be posted to the class Cougar Courses page after our first class meeting.** I recommend signing up with the 14-day free trial, as this covers most of the add/drop period.

Assessment: Your grade in this course will be determined by scores on two mid-term tests, a cumulative final exam, and homework assignments as follows.

- **Midterm Tests:** (50% Total: 25% Each) There will be two 75-minute midterm tests, given during class, on the following days:

Wednesday, October 13th and Monday, November 22nd.

- **Final Exam:** (35%) There will be a cumulative two-hour final exam, worth 35% of your course grade, scheduled by the university for

Monday, December 13th, from 1:45-3:45PM.

- **Homework:** (15% Total) There are two types of homework in this course, WileyPLUS homework and written homework. Each assignment will contribute equally to the homework grade, with the lowest two scores (as percentages) dropped.
 - **WileyPLUS Homework:** There will tentatively be 12 homework assignments posted on WileyPLUS, on an almost-weekly basis.
 - **Written Homework:** Periodically throughout the semester, written homework will also be assigned, to assess on some types of problems that WileyPLUS is incapable of evaluating, such as proofs.

Submission of written work will be done electronically through the website Gradescope (<https://www.gradescope.com/>), which is an online grading platform designed for STEM courses. Gradescope is completely free for you to use, and I will register each of you for the course Gradescope page using your campus email addresses during the *second* week of the semester, after enrollment in the course has settled. Once you are registered on Gradescope, an Announcement will be posted on Cougar Courses.

Gradescope primarily accepts submissions as PDF files, but will also accept direct image files from mobile browsers (i.e., from your phone's camera). If you don't have a scanner, there are scanning apps for phones that work fairly well. The campus license for Adobe products includes Adobe Scan, which is what I use and recommend.

In general, collaborating with other students on homework assignments is allowed and encouraged. That is, you are allowed to discuss specific problems with other students, including strategies and even determine a solution. However, you are required to write up solutions entirely on your own. You are **not** allowed to see the assignment another student is submitting, nor are you allowed to show another student the assignment you are submitting; both are considered acts of academic dishonesty and will be dealt with accordingly.

The *highest* grade cutoffs will be as follows: 90% for an A, 80% for a B, 70% for a C, 60% for a D. These cutoffs *might* be lowered but will not be raised. Any +/- grades will be assigned at the instructor's discretion once course grades are calculated, but they will not lower a grade: for example, a 70% guarantees a grade of C and is *not* a C-.

Other Policies

COVID Policies: Due to the ongoing COVID-19 pandemic, all persons visiting campus must follow the campus safety protocols, which are updated often to reflect the latest recommendations from health officials. See

<https://www.csusm.edu/csusmasone/plans/health-safety.html>

for more information.

Currently, those protocols require that all employees and students wear a face covering in any indoor shared environment, regardless of vaccination status. This includes our classroom: following the latest guidance from the Dean of Students Office, if you do not wear a face covering in class, you will be reminded to do so. But if you then refuse to wear one, you will be asked to leave the class, and you will be reported to the Dean of Students Office.

Even with the campus's safety precautions, it is still possible that a student may test positive for COVID-19 or display symptoms, or that I may. **If you test positive for COVID-19, show symptoms of COVID-19, or otherwise believe you were exposed, do not come to campus!** In fact, if you are ill for any reason, please do not come to class. Instead, if you suspect or know that you were exposed, please report it at

<https://www.csusm.edu/csusmasone/contact/report-case.html>,

and contact me and I will work with you directly to help minimize the disruption this causes.

In the event that I am unable to come to campus due to COVID exposure, symptoms, or am otherwise ill, then I will notify you through an Announcement on Cougar Courses to clarify how this will be handled and whether class will be held in-person (via substitute instructor) or conducted remotely if needed.

CSUSM is currently approved for in-person instruction, but that could change as the pandemic continues, and it is possible that this course may need to be delivered online for some portion of the semester. If this were to happen, we would switch to a virtual synchronous format, and class meetings would take place via Zoom during the scheduled time. If this happens, I will provide additional information via Cougar Courses.

Technological Information and Requirements: The three main websites you will need to be able to access are Cougar Courses, WileyPLUS, and Gradescope, and each are accessible from current web browsers. (As of this writing, no student has been unable to use any of them.) But while this class will hold lectures face-to-face, there will be some scheduled office

hours via Zoom, and to attend those, you will need a device (computer/tablet/phone) with a camera, microphone, and speakers capable of running it.

I am the instructor for the course content, but I am not able to provide technical support. For issues with WileyPLUS or Gradescope, please contact customer support on those websites. (And please notify me of any unresolved issues – if their customer support is inadequate, I need to know that.)

For any other technical support issues, please contact the Technical Support Services of the university at <https://www.csusm.edu/tss/index.html>. You can reach the student help desk by phone at (760) 750-4790, or via email at techsupport@csusm.edu.

Makeup Tests: If a midterm exam is missed *for a valid reason*, such as participation in a University event, illness, self-quarantine due to possible COVID exposure or a positive test, religious observance, etc., then that midterm score will be replaced with the final exam score in course grade calculations. In the event a second midterm exam (or the final exam) is missed for a valid reason, a makeup test will be arranged.

Class Attendance: After the first week of class, attending lecture is not *mandatory*, but it is expected. This means that you will not be required to request permission should you need to miss a class for some reason, but you will be responsible for obtaining any relevant notes on any material you miss from your classmates. Missing class on exam dates is covered in the Makeup Tests policy above.

Your full attention is expected when you do attend, which among other things means that cell phones should be set to silent or vibrate, and should you need to take a call during class, please leave the room before answering. Furthermore, the use of technology in the classroom is restricted to taking notes or accessing information relevant to the class itself. There are many reasons students take this course, but none of them are to watch you scroll through your Instagram feed.

STEM Success Center: This is a historically challenging course that requires students to be proactive in learning and study strategies. To assist you, free drop-in tutoring is available to all students in this class through the STEM Success Center, <http://www.csusm.edu/stemsc>, available through Microsoft Teams without an appointment. The trained peer educators (tutors) can assist you in developing a deeper understanding of course concepts, problem solving, preparation for exams, and identifying effective study strategies. In fact, students who attend early and often have demonstrated increases in their final grades. Tutoring starts the first week of classes and goes through finals week: for any questions, see their website or email stemsc@csusm.edu.

University Credit Hour Policy: Math 374 is a 3-unit course, which means students are expected to spend a *minimum* of 6 hours per week (outside of lecture) engaged in learning course content. (This includes studying, working on homework, etc..)

All-University Writing Requirement: This course has a writing requirement of 2,500 words, which will be fulfilled by the work associated with the WileyPLUS and written homework, and the tests.

Academic Honesty: Academic honesty is of the highest importance, and any acts of academic dishonesty will be reported to the Office of the Dean of Students as explained at

http://www.csusm.edu/policies/active/documents/Academic_Honesty_Policy.html

Examples of academic dishonesty include using resources not approved on exams, or submitting course problems to Chegg for solution. Chegg, specifically, is not an allowed resource in this course. Penalties for violating this policy can range from receiving a zero on an assignment or test to suspension from the University. Please speak with me if you have any questions about this.

Additionally, all course materials I make and post to Cougar Courses or otherwise distribute are provided for your personal educational use. They are not to be shared or posted on other servers.

Special Accommodations: Students with disabilities who require reasonable accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disability Support Services. This office can be contacted by phone at (760) 750-4905 or via email at dss@csusm.edu. If you are authorized by DSS to receive accommodations, I recommend that you email me to discuss them (rather than mention them in office hours) to maintain confidentiality.

If you require such accommodations *and* have appropriate documentation, you must let me know *as soon as possible* so that I have adequate time to make arrangements.

This syllabus is tentative! This syllabus is tentative and all aspects are subject to change. I will do my best to provide as much advance notice as I am able to.