Mathematics 369: Linear Algebra I, Summer 2024 Syllabus

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Office Hours. As this is an online course, I encourage you to use the Discussion Boards on Canvas. I will also have weekly office hours. Feel free to reach out at anytime for an additional time to meet if needed.

Course Information:

Prerequisites and Placement:
Math 156 or Math 161 or Math 255 or Math 271

Course Description
Linear systems, matrices, subspaces of Euclidean spaces, linear transformations on Euclidean spaces, eigenvalues, eigenvectors.

Textbook
A First Course in Linear Algebra by Ken Kuttler. This is an open-access (free) textbook located here. The textbook offers additional examples and resources for the topics covered in this course.

Canvas
See our course's Canvas https://canvas.colostate.edu/ for up-to-date course information, exams, homework assignments, quizzes, the course schedule, a copy of this syllabus, and links to additional resources.

Required Equipment and Software

- **Calculators:**
  Calculators will not be allowed in this course, nor will one be needed. All examples and problems on Labs and Exams should be easily calculable without electronic assistance.
- **Other Technology:**
  As this is an online course, you are required to have an electronic device that can access the internet. You will also have a final project for this course that will require you to have access to a document program. I would recommend using the Microsoft Word program that is available through your Outlook Email account.

Course Structure:

As this is an online asynchronous course, there will be no in person or live lectures. You will find recordings in the online modules that cover course content as well as example problems. These are meant to accompany slideshows and the online text to help your learning of the material.

When questions arise about the content, you are encouraged to post in the module discussions to engage with your fellow classmates. This also means you are encouraged to respond to your classmates questions so that everyone can build a better understanding of the materials.

Following the videos for each week, you are expected to complete labs and exams related to the material. You will access these assignments via the link to Lyryx found here.

Halfway through the semester, I will be sending out the details for a final project which will be a 5-page typed paper.

Assignments and Assessments:

Grades: The grade distribution will be calculated based on the following weightings:

- Labs (35%)
- Exams (40%)
- Final Project (25%)

Labs:
Every week there will be Labs associated to the topics covered in the lecture videos for that week. All Labs will be available the first day of class, but will the due Saturday 11:59pm MT of the appropriate week. These Labs will be completed through the external website Lyryx. I will post assignment reminders on canvas to remind you of the assignments due that week. These Labs will have unlimited attempts, meaning you can attempt them again until you achieve mastery of the subject. If you have questions while working through the Labs, I encourage you to engage with the discussions within the modules to post your question, or see if someone else has had the same question. Labs will make up 35% of your total grade.

Exams:
Every week there will be a 60 minute Exam associated to the topics covered in the lecture videos for that week. Exams will be made available Wednesday morning at 12:01am MT and must be completed by Saturday at 11:59pm MT of the same week. These Exams will be completed through the external website Lyryx. I will post reminders on Canvas to remind you of the exams. The Exams will have 3 attempts each, allowing you to learn from your mistakes, and will be open note exams. You will be allowed to use your textbook, notes, lecture videos, etc.. You are **NOT** permitted to use any resources not provided within this class, and you are not permitted to share details of the exams with other studetns. Each exam will have equal weight toward your final grade in the course, for a total of 40% of your total grade.

Final Project:
Final projects will consist of a short five-page paper due the last day of class. Details of the assignment will be sent out on July 1st, and a rough draft will be due July 19th at 11:59pm MT, and the rough draft will account for 5% of your grade for this course. The final draft will be due on August 2nd at 11:59pm MT and will accound for 20% of your grade for this course.

Academic Integrity:
This course will adhere to the CSU Academic Integrity Policy as found on the Student's Responsibilities page of the CSU General Catalog and in the Student Conduct Code. By handing in homework, lab reports, and exams you certify that this is your own work. You are encouraged to discuss homework solution strategies and laboratory write-ups with fellow students, but the final write-up must be your own. Misrepresenting someone else's work as your own (plagiarism; this includes submitting work from a Solutions Manual or an on-line homework web site as your own), possessing or using unauthorized reference information in any form that could be helpful while taking an exam (for example a calculator not explicitly permitted), or doing assigned problems with the aid of a computer algebra system that has not explicitly been permitted are examples of cheating. At a minimum, violations will result in a grading penalty in this course and a report to the Student Resolution Center.

Topics Covered:

- **Week 1:** Systems of Linear Equations
- **Week 2:** Matrix Operations
- **Week 3:** Determinants
- **Week 4:** Vector Spaces
- **Week 5:** Linear Transformations
- **Week 6:** Linear Transformations cont.
- **Week 7:** Diagonalization
- **Week 8:** Final Project

Make-up Policy:
If you are unable to complete assignments on time due to unforeseen circumstances, please contact me so that an arrangement can be made.

University Policies and Standards

CSU Principles of Community
Inclusion: We create and nurture inclusive environments and welcome, value and affirm all members of our community, including their various identities, skills, ideas, talents and contributions.

Integrity: We are accountable for our actions and will act ethically and honestly in all our interactions.

Respect: We honor the inherent dignity of all people within an environment where we are committed to freedom of expression, critical discourse, and the advancement of knowledge.

Service: We are responsible, individually and collectively, to give of our time, talents, and resources to promote the well-being of each other and the development of our local, regional, and global communities.

Social Justice: We have the right to be treated and the responsibility to treat others with fairness and equity, the duty to challenge prejudice, and to uphold the laws, policies and procedures that promote justice in all respects.

Diversity and Inclusion
Respect for Diversity: It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

Other Policies
Other policies relevant to your courses and resources to help with various challenges you may encounter, including Accommodation of Needs, Interpersonal Violence, Religious Observations, Undocumented Student Support, Food Insecurity, Student Case Management, Mental Health and Wellness. Please visit the following link https://col.st/2FA2g or use the QRN code below for further information.