Instructor: Víctor Bermúdez, McHenry 4117, email address: vebermud@ucsc.edu

Office Hours: 14:00 - 16:00 MW.

TA: Glen McDermott, McHenry 4117, email address: gamcderm@ucsc.edu

Discussion Sections: TTH 9:30 - 11:00, Natural Science Annex 102.

TA Office Hours: TTH 11:30 - 1:00, McH 4112.

Textbook: The textbook is Elementary Linear Algebra: An Etext (Fourth Edition) by Bruce Cooperstein. You can obtain the book by pasting the following URL into your browser:
The book is non-refundable so make sure you will continue the course till its completion before making a purchase. You can obtain a copy of the first chapter at the resources section of the Canvas site for the class.

Tentative Course Outline:

- Lecture 1: 1.1 Linear Equations and Their Solution. 1.2 Matrices and Echelon Forms. 2.2 Vectors and the Space $\mathbb{R}^n$.
- Lecture 2: 2.3 Span in $\mathbb{R}^n$. 2.4 Linear Independence in $\mathbb{R}^n$. 2.5 Subspaces and Bases in $\mathbb{R}^n$.
- Lecture 3: 3.1 Introduction to Linear Transformations. 3.2 The Product of a Matrix and a Vector. 3.3 Matrix Algebra.
- Lecture 4: 3.4 Invertible Matrices. 3.5 Elementary Matrices. 4.1 Introduction to Determinants.
- Lecture 5: Midterm.
- Lecture 6: 4.2 Properties of Determinants. 5.1 Introduction to Abstract Vector Spaces. 5.2 Span and Independence in Abstract Vector Spaces.
- Lecture 7: 5.3 Dimension of a finitely generated vector space. 5.4 Coordinate vectors and change of basis. 5.5 Rank and Nullity if a Matrix.
- Lecture 9: 7.1 Introduction to Eigenvalues and Eigenvectors. 7.2 Diagonalization of Matrices.
- Lecture 10: Final exam.
**Grading:** Midterm 30%, Homework 15%, Quizzes 15%, Final Exam 40%.

**Homework and Quizzes:** There will be weekly homework due Mondays and a quiz every lecture.

**Extra Help:** Do not hesitate to come to my or our TA’s office hours or make an appointment to discuss a homework problem or any aspect of the course. All UCSC students are eligible for up to 2 hours of tutoring per week and may sign-up for tutoring at https://eop.sa.ucsc.edu/OTSS/tutorsignup/. General information about LSS at http://www2.ucsc.edu/lss/.

**Summer Session Students with Disabilities:** If you qualify for classroom accommodations because of a disability, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me as soon as possible, preferably within the first week of the Summer Session. Contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu for more information.