

Linear Algebra

Course Syllabus

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Textbooks and Materials

- Textbooks:
 - ***Elementary Linear Algebra with Supplemental Applications. 12th Edition.* Howard Anton, Chris Rorres and Anton Kaul, 2019.**
 - *Elementary Linear Algebra.* 8th Edition. Ron Larson. CENGAGE. 2016.
 - *Linear Algebra,* 4th Edition. Stephen H. Friedberg, Arnold J. Insel, and Lawrence E. Spence.
 - *Linear Algebra Done Right.* 3rd Edition. Sheldon Axler, 2015.
 - 線性代數及其應用。黃子嘉
- Other materials:
 - Essence of Linear Algebra by 3Blue1Brown (<https://tinyurl.com/gp0w63hq>).

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Topics

- Systems of Linear Equations
- Gaussian Elimination.
- Matrix and Matrix Operations
- Inverses.
- Algebraic Properties of Matrices.
- Elementary Matrices.
- Invertibility.
- Determinants.
- Row Reduction.
- Cramer's Rule.
- Norm, Dot Product, Distance in R^n .
- Orthogonality
- Fundamental Theorem of Linear Algebra
- Eigenvalues and Eigenvectors.
- Diagonalization.

Grading Policy

- Attendance (5%)
- Assignments+Quizzes (35%)
- Midterm Exam (30%)
 - April 16, 2024.
- Final Exam (30%)
 - June 11, 2024.
- Some Extra Bonus Points

Assignment Hand-In Rule

- Be sure to submit your assignment in time.
- Each submission after the deadline only gets 50% discount of the grade.

Why should we learn Calculus and Linear Algebra?

- <https://www.youtube.com/watch?v=v2uHiBH85mk>

3Blue1Brown

- What are vectors? [[link](#)]