

**MATH 251**  
Linear Algebra I  
*Winter 2015*

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- Text:** *Linear Algebra*, 4th Edition, by S. Friedberg, A. Insel, L. Spence, (Prentice Hall).
- Assignments:** Assignments are optional. If you submit the assignment by the due date, the grader will provide feedback on the correctness of your solutions. No credit is given for the assignments, but submission of assignments is highly recommended. Solutions to the assignments will be posted on Moodle after the due date. Late assignments will not be accepted under any conditions.
- Midterm exam:** There will be one midterm exam in the seventh or eighth week of classes, covering the first six or seven weeks of the course. There will be no make-up test.
- Final Exam:** The final examination will be three hours long. It will cover material from the entire course.
- Grading:** Your final grade is the maximum of the final examination grade counted as 100%, and the grade computed by weighting the final exam at 70% and the midterm exam at 30%.
- Calculators:** Only calculators approved by the Department are permitted in the class test(s) and final examination. The calculators are the **Sharp EL 531** and the **Casio FX 300MS**, available at the Concordia Bookstore.

<b>Week</b>	<b>Section</b>	<b>Topic</b>
1	1.2, 1.3	Vector Spaces, Subspaces
2	1.4, 1.5	Linear Combinations, Systems of Equations, Linear Dependence and Independence
3	1.6	Basis and Dimension
4	2.1	Linear Transformations, Null Spaces, Ranges
5	2.2	Matrix Representation of Linear Transformation
6	2.3	Composition of Linear Transformations, Matrix Multiplication
7	2.4	Invertibility and Isomorphisms
8	2.5	Change of Coordinate Matrix
9	3.1, 3.2	Elementary Matrices, Rank of Matrices, Matrix Inverses
10	3.3, 3.4	Systems of Equations - theoretical and computational aspects
11	4.4, 5.1	Summary about Determinants, Eigenvalues and Eigenvectors
12	5.2	Diagonalizability
13		<b>REVIEW</b>