

MATH 251
Linear Algebra I
Fall 2015

Instructor*: _____

Office/Tel No.: _____

Office Hours: _____

*Students should get the above information from their instructor during class time. The instructor is the person to contact should there be any questions about the course.

Course Examiner: Dr. M. Bertola

Text: *Linear Algebra*, 4th Edition, by S. Friedberg, A. Insel, L. Spence, (Prentice Hall).

Assignments: You will be required to hand in assignments. They reflect the content of the course. No late assignments will be accepted.

Class Test: There will be one class test in the seventh week of classes, covering the first five weeks of the course. **There will be no make-up test.**

Final Grade: The final examination will be three hours long. It will cover material from the entire course.

Grading: 10% Assignments, 30% Class Test, 60% Final Exam or 100% Final Exam, whichever the higher.

Calculators: Only calculators approved by the Department (with a sticker attached as proof of approval) are permitted in the class test(s) and final examination. The preferred calculators are the **Sharp EL 531** and the **Casio FX 300MS**, available at the Concordia Bookstore.

Week	Section	Topic	Problems
1	1.2, 1.3	Vector Spaces, Subspaces	1.2: 12, 18 1.3: 19, 23, 24
2	1.4, 1.5	Linear Combinations, Systems of Equations Linear Dependence and Independence	1.4: 4(a,c), 5(g,h), 10, 14 1.5: 2(a,c,e), 12, 17
3	1.6	Basis and Dimension	1.6: 4, 10(b,d), 14, 29, 30
4	2.1	Linear Transformations, Null Spaces, Ranges	2.1: 2, 5, 9(d,e), 14, 15, 24b
5	2.2	Matrix Representation of Linear Transformation	2.2: 4, 5(b,c,f), 11, 13
6	2.3	Composition of Linear Transformations, Matrix Multiplication	2.3: 3, 9, 11, 12, 13
7		CLASS TEST	
8	2.4 2.5	Invertibility and Isomorphisms Change of Coordinate Matrix	2.4: 7, 9, 14, 17 2.5: 2d, 3b, 6d, 7a
9	3.1, 3.2, 3.3	Elementary Matrices, Rank of Matrices, Matrix Inverses, Systems of Equations	3.2: 2f, 4b, 5h, 6(d,f), 7, 11 3.3: 2d, 3d
10	3.4 4.4	Systems of Equations Summary about Determinants	3.4: 6*, 9, 10, 12 (*In question 6: Deter- mine A if the first, third and FIFTH columns...) 4.4: 3d, 4d, 5
11	5.1	Eigenvalues and Eigenvectors	5.1: 2f, 3(b,d), 4(c,d,g,i), 8, 11
12	5.2	Diagonalizability	5.2: 2(b,d,f), 3(b,f), 7, 8, 9
13		REVIEW	