Department of Mathematics and Statistics
Concordia University

MATH 251
Linear Algebra I
Fall 2016

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.

Text:	*Linear Algebra*, 4th Edition, by S. Friedberg, A. Insel, L. Spence, (Prentice Hall).
Assignments:	There will be weekly problem assignments to submit, chosen from the textbook material covered each week. These will be graded and returned the following week. They count for just 10% of your final grade, but they are an essential part of the course, both for the practice and as a key indicator of how well you are keeping up with the course. The problem assignments for each week will be posted at the Moodle site as part of the revised outline during or before the week preceding the submission date. Late assignments will not 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:	Assignments 10%, Class Test 30%, Final Exam 60% **or:** Final Exam 100%, whichever is 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: NB Only those solutions should be submitted that are indicated in boldface.
1 Sept. 6, 8	1.2, 1.3	Vector Spaces, Subspaces	1.2: 1(a-i), 4(a-h), **12, 20, 21**, 22 1.3: 1(a-g), 8(a,**b**,c,**d**,e,**f**),**12, 28** (*due: Thurs. Sept. 15)
2 Sept. 13, 15	1.4, 1.5	Linear Combinations, Systems of Equations Linear Dependence and Independence	1.4: ## 3, 4, 5, 6, 16 1.5: ## 2, 5, 6, 17, 18 **Assignment 2: ##1, 2, 3, 4, 5** (*due: Thurs. Sept. 22)
3 Sept. 20, 22	1.6	Basis and Dimension	1.6: ## 4, 6, 8, 10, 13, 20, 29, 31 **Assignment 3: ##1, 2, 3, 4, 5** (*due: Thurs. Sept. 29)
4 Sept. 27, 29	2.1	Linear Transformations, Null Spaces, Ranges N.B. There is **no** Thursday class on Oct. 6!	2.1: ##1, 2, 4, 5, 9, 10, 14, 15, 16, 17, 18, 19, 20, 21, 35 **Assignment 4: ##1, 2, 3, 4, 5** (***due: Tues. Oct. 4**)
5 Oct. 4	2.2	Matrix Representation of Linear Transformation N.B. There is **no** Thursday class on Oct. 6!	2.2: ## 2, 3, 8, 10, 11, 14, 15 **Assignment 5: ##1, 2, 3, 4, 5** (*due: Thurs. Oct. 13)
6 Oct. 11, 13	2.3	Composition of Linear Transformations, Matrix Multiplication	2.3: ## 2, 3, 9, 11, 12, 13, 15 **Assignment 6: ##1, 2, 3, 4, 5** (*due: Tues. Oct. 25)
7 Oct. 18, 20	1.2 – 2.3	Review: Tues. Oct. 18 **CLASS TEST (including material from all sections covered, up to 2.2)**	**Thurs. Oct. 20**
8 Oct. 25, 27	2.4 2.5	Invertibility and Isomorphisms Change of Coordinate Matrix	2.4: ##2-7, 9, 15; 2.5 ## 2-6, 10 **Assignment 7: ##1, 2, 3, 4, 5** (*due: Thurs. Nov. 3)
9 Nov. 1, 3	3.1, 3.2, 3.3	Elementary Matrices, Rank of Matrices, Matrix Inverses, Systems of Equations	3.2:##1, 5, 8,17-19; 3.3: 2, 4, 7,9 **Assignment 8: ##1, 2, 3, 4, 5** (*due: Thurs. Nov. 10)
10 Nov. 8, 10	3.4 4.3, 4.4	Systems of Equations Determinants and Cramer's rule	3.4: 2,3,8,10; 4.3: 2-7; 4.: 3, 4, 5 **Assignment 9: ##1, 2, 3, 4, 5** (*due: Thurs. Nov. 17)

11 Nov. 15, 17	5.1	Eigenvalues and Eigenvectors	5.1: TBA **Assignment 10: ##1, 2, 3, 4, 5** (*due: Thurs. Nov. 24)
12 Nov. 22, 24	5.2	Diagonalizability	5.2: TBA **Assignment 11: ##1, 2, 3, 4, 5** (*due: Thurs. Dec. 1)
13 Dec. 1		**REVIEW**	