Department of Mathematics and Statistics
Concordia University

> **MATH 252**
> Linear Algebra II
> ***Winter 2018***

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 Friedberg, Insel & Spence, Prentice Hall.

Assignments: Given weekly. No late assignments will be accepted.

Test: There will be one class test in the seventh week. <u>There will be no make-up test.</u>

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

Final Mark: The final grade will be based on the higher of (a) or (b) below:
a) 10% for the assignments, 30% for the test, and 60% for the final.
b) 100% for the final examination.

If the grading scheme for this course includes graded assignments, a reasonable and representative subset of each assignment may be graded. Students will not be told in advance which subset of the assigned problems will be marked and should therefore attempt all assigned problems.

Calculators: Only calculators approved by the Department are permitted in the class test and final examination. The calculators are **Sharp EL 531** and **Casio FX 300MS**, available at the Concordia Bookstore.

Week	Section	Topics	Assignments
1	Appendix D 2.2	Complex Numbers Vector Spaces over R or C Matrix $[T]_\beta$ for T:V->V	Page 84: 2bef, 5af, 8,10
2	2.5 5.1	The Change of Coordinate Matrix Eigenvalues and Eigenvectors	Page 116: 2bd, 3d, 6d Page 256: 3bd, 4c
3	5.2	Diagonalizability (Section on Direct Sums excluded)	Page 279: 2df, 3bf, 8, 14abc
4	5.4	Invariant subspaces The Cayley-Hamilton Theorem	Page 321: 3, 6bd, 9bd, 10bd, 18ab
5	6.1	Inner Products and Norms	Page 336: 5, 9, 11
6	6.2	The Gram-Schmidt Orthogonalization Process and Orthogonal Complements	Page 352: 2df, 9, 19c
7		**Review** **Midterm Test**	
8	6.3	The Adjoint of a Linear Operator	Page 365: 2b, 3b, 8, 12a, 19, 20c
9	6.4	Normal and Self-Adjoint Operators (Definition of a positive definite operator Page 377)	Page 374: 2cf, 6, 11, 20
10	6.5	Unitary and Orthogonal Operators and their Matrices	Page 392: 2bce, 3, 11, 17
11	7.1	The Jordan Canonical Form I	Page 494: 2abcd
12	7.2 7.3	The Jordan Canonical Form II The Minimal Polynomial	Page 509: 4bcd Page 522: 2, 3
13		**REVIEW**	

Academic Integrity and the Academic Code of Conduct