Department of Mathematics and Statistics
Concordia University

MATH 251
Linear Algebra I
Fall 2020

This course, the midterm and final exam, will be online.

Instructor*: _____

Email: _____

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.

Textbook: *Linear Algebra*, 5th Edition, by S. Friedberg, A. Insel, L. Spence, (Prentice Hall).
The digital and print versions of the textbook will be available at:
https://www.bkstr.com/concordiastore/home
Note: Students should order textbooks as early as possible, especially for print versions in case books are backordered or there are any shipping delays.

Assignments: You will be required to submit weekly assignments as PDF files to the Moodle site. An announcement will be made on how to do this. They reflect the content of the course. You will submit them at the beginning of the second class in the following week. Solutions must be written up carefully, showing all work for full credit. No late assignments will be accepted.

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

Final Exam: There will be a final examination scheduled by the University Examinations Office during the regular examination period in December.
It will cover material from the entire course.

Grading: The final grade will be based on the higher of (a) or (b) below:

a) 15% for the assignments.
30% for the midterm test,
55% for the final exam.

b) 15% for the assignments,
85% for the final exam.

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(s) and final examination. The calculators are the **Sharp EL 531** and the **Casio FX 300MS**, available at the Concordia Bookstore.
See for details:
http://www.concordia.ca/artsci/math-stats/services.html#calculators

Week	Section	Topic	Assignments
1	1.2, 1.3	Vector Spaces, Subspaces	1.2: 18, 19 1.3: 10, 12, 17
2	1.4, 1.5	Linear Combinations, Systems of Equations Linear Dependence and Independence	1.4: 5(d,f,h) , 6, 12 1.5: 2(b,d,f), 8a, 10
3	1.6	Basis and Dimension	1.6: 3(b,d), 8, 14, 16, 30
4	2.1	Linear Transformations, Null Spaces, Ranges	2.1: 3, 6, 9b, 11, 14
5	2.2	Matrix Representation of Linear Transformation	2.2: 2(b,e), 4, 5(a,d,f), 10
6	2.3	Composition of Linear Transformations, Matrix Multiplication	2.3: 3(a,b), 9, 11, 12c, 13,
7		**CLASS TEST**	

8	2.4 2.5	Invertibility and Isomorphisms Change of Coordinate Matrix	2.4: 6, 9, 15, 16, 17 2.5: 2(b,d), 3f, 6(b,d)
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), 20a 3.3: 2d, 3d
10	3.4	Systems of Equations	3.4: 2j, 6*, 8, 10, 12 (*In question 6: Determine A if the first, third and FIFTH columns…)
11	4.4 5.1	Summary about Determinants, Eigenvalues and Eigenvectors	4.4: 3h, 4h 5.1: 3d, 4(b,d), 5(c,d,g), 16(a,b)
12	5.2	Diagonalizability	5.2: 2(b,d,f), 3(b,f), 7, 8, 9
13		**REVIEW**	

Academic Integrity and the Academic Code of Conduct
This course is governed by Concordia University's policies on Academic Integrity and the Academic Code of Conduct as set forth in the Undergraduate Calendar and the Graduate Calendar. Students are expected to familiarize themselves with these policies and conduct themselves accordingly. "Concordia University has several resources available to students to better understand and uphold academic integrity. Concordia's website on academic integrity can be found at the following address, which also includes links to each Faculty and the School of Graduate Studies: concordia.ca/students/academic-integrity." *[Undergraduate Calendar, Sec 17.10.2].*

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Disclaimer: In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in the course is subject to change.