

MATH 1104 Linear Algebra for Engineering or Science Section H, Winter 2020

Instructor: Ranjeeta Mallick, HP 5250

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Prerequisites: Ontario Grade 12 Mathematics: Advanced Functions, or MATH 0005, or equivalent, or permission of the School.

Text: Linear Algebra and its Applications (5th edition) by David C. Lay, Steven R. Lay, and Judith J. McDonald. (Other editions are also suitable.)

Additional References:

- A First Course in Linear Algebra (online), by Rob Beezer; found <http://linear.ups.edu/index.html>

Lectures: Monday and Wednesday 18:05-19:25 in 301 Azrieli Theatre, January 6, 2020 to April 7, 2020.

Office Hours: Monday and Wednesday 19:30 (outside the class room), or by appointment, and subject to change.

Tutorials: Wednesday 20:05-20:55. Tutorials start on Jan 15, 2020. Venue (TBA). There will be problem solving sessions during the tutorial hours.

Section: Location	Last Names	TA:	TA e-mail:(@cmail.carleton.ca)
H1:	Last Names:		
H2:	Last Names:		
H3:	Last Names:		
H4:	Last Names:		
H5:	Last Names:		

Tests: During tutorial on **Jan 29, Feb 26 and Mar 18 (No makeup test)**. The average of best two tests out of three tests will be counted as 45% towards the final grade. No make-up, early or late tests will be given. Any missing test will be counted as zero. If you miss a test for medical reason, an official and signed medical note must be presented. It is your responsibility to pick up your test in the following tutorial hours.

Final Exam: 3-hour final examination to be held during the April exam period, (13th-25th) covering the entire course. It is the responsibility of each student to be available at the time of the final examination. In particular, no travel plans during the April examination period should be made until the examination schedule is published. Anyone wishing to view their exams (marks will not be changed) can do so within the 3 weeks following the official release of grades. Any issues with test or tutorial grades must be

addressed before the final exam. All uncollected test and tutorial papers will be destroyed after the final exam.

Grading scheme: Tests (best 2 of 3): 45 %, Tutorial Work: 5 %, Final Exam: 50 %

Homework: Practice exercises will be recommended via Culearn as a vital part of your training. This homework is not to be handed-in, nor will it be graded.

Calculators: No calculators or memoranda are allowed during the tests and the final examination.

Announcement: You are responsible for keeping up with information announced in class, or announced in CuLearn or sent to your e-mail.

Withdrawal: The last day to withdraw from the course with is April 7, 2020.

Math Tutorial Centre: You can study and get help from teaching assistants in the Math Tutorial Centre (HP 3422). Please visit <https://carleton.ca/math/math-tutorial-centre/>

You may also join the Math & Stats Learning Assistance Program which offers extra support for first year mathematics course. Please visit <https://carleton.ca/math/math-learning-assistance-program/>

Academic Accommodation: You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

Students with disabilities requiring academic accommodations in this course must register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Registered PMC students are required to contact the PMC, 613-520-6608 or pmc@carleton.ca, every term to ensure that I receive your Letter of Accommodation, no later than two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by the deadlines published on the PMC website:

<http://www2.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/>

Pregnancy/Religious Accommodation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity services website

<http://www2.carleton.ca/equity/accommodation>

Contents: Systems of linear equations. Row echelon forms. Vector equations. Matrix equations. Solution sets of linear systems. Matrix operations. The inverse of a matrix. Determinants including Cramers' rule. Subspaces. Linear independence. Dimension, rank. Linear transformations. Eigenvectors, eigenvalues. Diagonalization. Complex numbers. Complex eigenvalues. Inner product. Length. Orthogonality. Orthogonal sets. Orthogonal projections

- The outline might change depending on the course dynamics.