

Math 266.3 (01) Linear Algebra I (2009–10 T1)

INSTRUCTOR: Franz-Viktor Kuhlmann
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OFFICE HOURS: F 2–3 pm
LECTURES: MWF 12:30–1:20 pm Thorvaldsen 159
TEXT: W. Keith Nicholson, Linear Algebra with Applications, Sixth Edition

PREREQUISITES:

- Math 110 and 116; or permission of the Department.

DESCRIPTION:

- Linear equations, Gaussian elimination, matrix operations, matrix inverses, elementary matrices, determinants, eigenvalues and eigenvectors, diagonalization, lines and planes, dot product and cross product, the vector space \mathbb{R}^n , subspaces, linear dependence and independence, basis and dimension, linear transformations, kernel and image, orthogonality. Applications to the physical, social and life sciences.

TOPICS:

- We will cover all of the theory and some of the applications in Chapters 1 to 5 (systems of linear equations, matrix algebra, determinants and diagonalization, vector geometry, the vector space \mathbb{R}^n), and some of the topics in Chapters 6 to 8 (vector spaces, linear transformations, orthogonality).

EVALUATION:

- Five problem sets, which will count 4% each for a total of 20%. Solutions will be due at the start (!) of the class two weeks later.
- Two 50-minute tests, counting 15% each for a total of 30%. Dates will be fixed in class.
- Three-hour final exam, counting 50%. You must write the final exam in order to pass this class.
- No books, notes, calculators or electronic dictionaries will be permitted on the tests or the final exam.
- Students who miss a test or a problem set for a valid reason will have the percentage value transferred to the final exam. Make-up tests will only be permitted in exceptional circumstances.

HELP:

- The Math Help Centre is located in the Main Library in the new University Learning Centre. For more information, including hours of operation, see the new ULC website:
<http://www.usask.ca/ulc/math.php>
- Use my office hours! Appointments for other meeting times can be set by email (or see me before or after class).