

Course Description for MATH 4300/5300 (Linear Algebra I), Fall, 2009

Time & Place: T Th 2:00-3:15 pm, UH4520

Instructor: M. Pettet **Office:** UH 4080 A **Email:** mpettet@math.utoledo.edu

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Office Hours: Tentatively TR 11:00 am - 12:30 pm and W 11 - 1:00 pm
or by appointment (or not by appointment if I'm free)

Text & Syllabus: *Linear Algebra*, (4th ed.), S.H. Friedberg, A.J. Insel and L.E. Spence (Prentice Hall)

Prerequisites: Math 3190. Math 1890, 2890 and/or Math 2850 would be helpful.

Brief Description: This course is intended to be a rigorous introduction to linear algebra (the first half of a two-semester linear algebra sequence). The viewpoint is purely mathematical and while the subject has numerous applications to applied mathematics and the physical sciences, these will not be extensively discussed here. (Math 4350/5350 exists for that purpose.) The main objects of study are finite-dimensional vector spaces (usually over the real or the complex numbers) and linear transformations. The course covers many of the same topics as the lower-level courses Math 1890 and 2890 but with considerably more attention to proof and rigor (and requiring correspondingly greater mathematical maturity from the students). In addition to solving purely computational problems on tests, students will be required to reproduce proofs of theorems and be able to apply theorems to solve other problems. I hope to cover most of the first five chapters of the text (though probably not the sections marked with an asterisk as "optional").

Grading Policies:

1. Assigned homework problems will be posted on my web page. (See URL above.) Homework will be collected biweekly in the Tuesday class, starting in the third week. These assignments will together contribute 100 points (20%) toward your final grade.

2. The two term tests will occur in class on Thursday, October 8 and Thursday, November 19 unless otherwise announced in class at least a week before. Each will emphasize material covered since the previous test and will count for 100 points (20% of your course grade).

3. The final examination will be comprehensive and will be worth 200 points (40% of your course grade). This exam must be taken during the time scheduled by the university (Friday, December 18). **Please do not make travel arrangements that conflict with this date.**

4. Graduate students (Math 5300/7300) may be required to do additional problems on the homework, tests or the final exam.

5. **No notes, books or calculators capable of storing textual data will be permitted on tests.** A simple calculator will be permitted for numerical computation only.

6. Students are free to discuss problems or the content of the course with each another and to consult other texts or web resources if necessary. However, homework solutions that are turned in under a student's name must be expressed in that student's words and written up (or preferably typed) by that student alone. Evidence to the contrary may raise issues of academic dishonesty, possibly resulting in serious penalties for the students involved. See the university's policy statement on academic dishonesty at

www.utoledo.edu/dl/students/dishonesty.html

Final Grades: For undergraduates, a final course grade will be based on your total score (out of 500) on the term tests, homework and final exam. 86-100% guarantees an "A"; 76-85% guarantees at least "B"; 66-75% guarantees at least "C"; 55-65% guarantees at least "D"; below 55% will likely result in "F".

Grades for graduate students will be also computed based on a total out of 500 but a scale of 90%, 80%, 70% and 60% for A, B, C and D, respectively, will be used.

There may be some discretionary *upward* adjustments to this formula in a few cases where the total score falls just short of a grade cutoff and where the final exam grade warrants it. "+" and "-" grades may also be given in such circumstances. However, in most cases, the grade determined by the formula above will be

your final course grade. Neither exam grades nor final course grades will be subject to a formal “curve.”

Policy on Late Homework and Makeup Tests: Late homework will not be accepted without a very compelling excuse and it will not be accepted after a delay of more than a day without documentation to justify the excuse.

To be eligible to make up a missed term test, be prepared to provide compelling documentary evidence that your absence was beyond your reasonable control. (Simply being unprepared is not a legitimate excuse.) See

www.utoledo.edu/facsenate/missed_class_policy.html

for more details about the kinds of excuses that may be considered legitimate. **Even if the excuse is legitimate, you must contact me and make arrangements for the makeup exam at the earliest possible date, preferably by e-mail or phone.** (If you have difficulty contacting me, leave a message and your telephone number with the department secretary at 419 530-2568 or slide it under my office door.) Excuses presented after the missed test has taken place (and particularly, those presented after the graded tests have been returned to the rest of the class) will receive especially critical scrutiny. Of course, in no case will a makeup exam be easier than the test it replaces.

Some Important Dates:

Term Test 1:	Thursday, October 8
Term Test 2:	Thursday, November 19
Last date to Withdraw:	Friday, October 30
Final Exam:	Friday, December 18