MATH 309 SECTION 3 SPRING 2013

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Office Hours. MW 2-3pm, F 10-11am, and by appointment

Text. Robert Messer, *Linear Algebra, Gateway to Mathematics*, Harper Collins, 1994

Course objectives. This course on linear algebra focusses on proofs. For most of you, this is the first course where you encounter rigorous proofs. Several methods of writing proofs will be discussed. Upon completion of the course you are expected to present written proofs to relevant theorems and problems. During this class a special effort is made to help you understand the presented material. Please keep in mind that understanding mathematical arguments is different from memorizing the correct answer!

The course covers the following topics:

linear systems of equations, vector spaces, linear independence and bases, linear transformations, determinants, and eigenvalues and eigenvectors, and if time permits: inner product spaces

All covered material is relevant for tests and for the final exam.

Homework:. Homework problems will be assigned at the beginning of each class. It is essential to your understanding of what is going on in class that you work hard on them on a day-by-day basis. The problems assigned will be collected the next-to-next day of class. Your solutions must be written up *neatly* and *logically*, with appropriate explanation in complete sentences of what you are doing. Roughly half of the homework problems will be graded. You may discuss any of the problems with each other, as long as you work alone and use your own wording in writing up the homework to be handed in. *Late assignments will not be accepted.*

Review sessions. In order to help students in understanding and deepening the material covered in class the math department offers 4 weekly recitation sections of 90 minutes each. Every student should sign up for a specific recitation section and can only receive credit in the section he/she signed up for. To receive credit students must be present during the entire recitation and take a 15 minute quiz at the end of the session. You can earn a maximum of 100pts by participating in the recitations and the weekly quizzes. Those students who *do not or cannot* participate in the recitations *must take* a uniform exam on April 8 from 4.10-5.40pm. The points you accumulate in the quizzes or the points from the uniform exam on April 8 (max. 100 points) will count as a third midterm exam.

The exact time and location of the recitation sections will be announced later.

These recitation sessions are run by two TAs in the math department: Andrew Claussen and Ben Schneedecker.

In addition Andrew and Ben will be available for questions from 309 students. Again the exact time and location will be announced later.

Exams. There will be 2 (regular) one-hour in class exams (midterms). The tentative dates are: *February 13 and April 3*. Those of you who participate regularly in the review sessions and take the quizzes can replace the third exam by those quizzes. You can earn 10pts (max.) on each of the quizzes. There will be approximately 13 quizzes during the semester. I will drop the 3 lowest scores so that you can achieve 100pts (max.) in the review sessions. Those not participating in the recitation sessions *must* take the third one-hour exam on April 8. You have to choose by February 8 if you want to take the quizzes or if you take the third exam.

There is a uniform Final Exam scheduled for Tuesday, April 30, 10am-12noon.

Grading. You can earn up to 600pts in this class distributed as follows:

3 Hourly Exams 100 Points each

Final 200 Points

Homework 100 Points

NOTE: In order to achieve a passing grade in this course you need at least 100pts (50%) in the Final Exam **and** 50% of the homework and midterm scores.

Depending on *all* your work (exams, homework, work sheets, and final exam) your grade will be determined according to the following:

Grading scale:

- 4.0 • 92% or above
- 3.5 • 85 - 91%
- 3.0 • 78 - 84%
- 2.5 • 71 - 77%
- 2.0 • 64 - 70%
- 1.5 • 57 - 63%
- 1.0 • 50 - 56%
- 0.0 • 49% and below

After each class read your notes, read the section in the book, and do the assigned homework. You should do at least two hours of work outside of class for each class section. Attend all classes.

Dates to know.

Monday, January 7 - Classes begin.

Friday, January 11 - Online open add period for Spring semester ends at 8pm. Last day to change to CR/NC or visitor at Registrar's Office by 5pm. Students planning on graduating for Spring or Summer of 2013 should apply by this date. (reg.msu.edu)

Monday, January 14 to Friday, January 18 - Students go to Undergraduate office, C212 Wells Hall, for Mathematics enrollment changes. (Late adds, drop to lower course, section changes)

Friday, January 18 - Last day to late add a course or change sections within a course. Last day to drop to a lower level course.

Monday, January 21 - Martin Luther King, Jr. Day. No classes are held. The University is open.

Friday, February 1 - End of Tuition Refund

Wednesday, February 27 - Middle of semester. Last day to drop a class without a grade being reported.

Monday, March 4 to Friday, March 8 - Spring Break - no classes. The University is open.

Friday, April 26 - Last day of classes

Tuesday, April 30, 10.00am-12.00noon - Common MTH 309 Final