Instructor. Prof. Christel Rotthaus
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Office Hours. MWF 11-12noon and by appointment


Course objectives. This course on linear algebra focuses 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 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.

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 Melfi and Yipeng Zhao.

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

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Exams. There will be 2 (regular) one-hour exams (midterms). The tentative dates are: 
*February 15 and March 21.* Those of you who participate regularly in the review sessions and take the quizzes can replace the third in class exam by those quizzes. You can earn 10pts (max.) on each of the quizzes. There will be approximately 12 quizzes during the semester. I will drop the 2 lowest scores so that you can achieve 100pts (max.) in the review sessions. For those not participating in the recitation sessions the third one-hour exam will be during the last week of classes. (Dates will be announced later). You have to choose by February 15 if you want to take the quizzes or if you take the third exam. You cannot improve your score on the third exam by taking quizzes or vice versa.

There is a uniform Final Exam scheduled for Tuesday, May 1, 10am-12noon.

Grading. You can earn up to 650pts in this class distributed as follows:

- 3 Hourly Exams 100 Points each
- Final 200 Points
- Homework 150 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 9 - Classes begin.

Friday, January 13 - Online open add period for spring semester ends at 8pm. Last day to change to CR/NC at Registrar’s office by 5pm.

Monday, January 16 - Martin Luther King, Jr. Day. No classes are held. The university is open.

Monday, January 16 to Friday, January 20 - Students go to Undergraduate office, A212 Wells Hall, for Mathematics enrollment changes. (late adds, drop to lower courses, section changes)

Friday, January 20 - Last day to late add a course or change sections within a course. Last day to drop to a lower level course.

Friday, February 3 - End of Tuition Refund.

Wednesday, February 29 - Middle of semester. Last day to drop a class without a grade being reported.

Monday, March 5 to Friday, March 9 - Spring Break - no classes. The university is open.

Friday, April 27 - Last day of classes

Tuesday, May 1, 10.00am-12.00noon - Common MTH 309 Final

Friday, May 4 to Sunday, May 6 - Commencements