

Mathematics 309, Section 2

Fall, 2018

Class meets: 12:40 -1:30 MWF in A120 Wells Hall.

Professor: T. Parker
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Office hours: Monday: 2–3 pm
Tuesday 1–2
Thursday 2–3
or by appointment.

Class Web page: math.msu.edu/~parker/309. **Bookmark this!**

Goals: This course is a proof-based introduction to Linear Algebra. After calculus, Linear Algebra is the most useful branch of mathematics, with innumerable applications in statistics, computer science, engineering, physics, economics and in mathematics itself. It combines algebra and geometry in a way that is mathematically “clean”: the definitions and theorems are simple and precise, and most proofs are short, direct and illuminating.

Prerequisites: A year of Calculus, Math 299, and a willingness to work hard on abstract mathematics.

Textbook: *Linear Algebra with Applications, 9th ed.* by Steven Leon. We will cover through the middle of Chapter 6. Sections 1.1–1.5 available [here](#).

Additional resources:

- *Schaum's Outlines: Linear Algebra*, by S. Lipschutz and M. Lipson is a cheap, helpful book.
- *Linear Algebra Done Wrong*, by S. Treil. A free online book with a clean presentation, available [here](#).
- Video lectures: Free video lectures on Linear Algebra are available online from [Johns Hopkins](#) (for a course very similar to ours), and from [MIT](#) (for a course that emphasizes the applications of linear algebra to numerical analysis).

Evaluation: There will be three 50-minute exams each worth 100 points each, a 150-point comprehensive Final Exam, and daily homework assignments and occasional quizzes worth a total of 200 points (see below). At the end of the semester, your total points (out of 750) will be converted to a percentage, and then to a course grade.

Missed exams will count as 0 points. Only under rare circumstances (such as illness with a doctor's written excuse) will a make-up exam be given.

Exam schedule and weighting: There will be a total of 750 possible points for the course.

200 pts	Homework & Quizzes	HW assigned daily, collected weekly. Occasional quizzes.
100 pts	First Hourly Exam	Friday, Sept 21, in class.
100 pts	Second Hourly Exam	Wednesday, Oct. 24, in class.
100 pts	Third Hourly Exam	Monday, Nov. 19, in class.
150 pts	Final Exam (covers entire course)	Tuesday Dec 11, 12:45–2:45 pm in A120 Wells Hall

Homework: The daily homework assignments are the main part of the course. **You are expected to do all homework problems.** Homework will be collected once a week and selected problems will be graded.

Plan on spending **2–4 hours** of homework for each class meeting. You are encouraged to help each other on homework. At the beginning of each class a few minutes will be spent answering homework problems.

Important dates:

Monday, Sept. 3: Labor Day, no class.

Weds, Sept. 5: Online enrollment (including changes to credit/no credit) ends at 8 pm.

Thurs.–Weds., Sept. 6–12: All Math enrollment changes (late adds, drop to lower course, section changes) must be done at the Undergraduate Office, C212 Wells Hall.

Weds, Sept. 12: Last day to drop to a lower course level.

Friday, Sept. 21: **EXAM 1**, in class.

Monday, Sept. 24: Last date to drop a course and receive a 100% tuition refund.

Weds, Oct. 17: Last day to drop a course without a grade being reported.

Weds, Oct 24: **EXAM 2**, in class.

Nov. 16 or 19: **EXAM 3**, exact day to be announced later.

Friday, Nov. 23: no class (Thanksgiving break).

Friday, Dec. 7: Last day of classes.

Thursday, Dec. 15: **FINAL EXAM**, Tuesday Dec 11, 12:45–2:45 pm in A120 Wells Hall.

Attendance & Integrity: You are responsible for everything presented in class meetings. If you must miss a class, plan to get notes for that day from a classmate. Don't miss exams. As always, all students are expected to adhere to MSU's policy on academic integrity described in 'General Student Regulations' in the Spartan Life booklet vps.msu.edu/SpLife.

Key to Success: Do *ALL* the homework problems. *Mathematics is learned by doing problems.* Again, you are encouraged to work with friends on the homework problems. More advise:

- Take complete notes in class. The course will be based mostly on lectures – more than on the textbook.
- Start working on the homework problems the day that they are assigned.