MATH 0540/HONORS LINEAR ALGEBRA FALL 2018

Instructor: Rohini Ramadas
   Website: `https://sites.google.com/view/rohini-ramadas`
   Email: rohini_ramadas@brown.edu
   Office: Kassar Hall 219
Office Hours: Mondays 2:00-2:45PM; Wednesdays 11:15AM-12:00PM
Class times: MWF 1:00-1:50PM
Classroom: Biomed Center B13
In-class midterm exams: September 26, October 31
Course website: `https://sites.google.com/view/rohini-ramadas/linear-algebra-fall-2018`
Final Exam: December 18 2:00PM
Textbook: Sheldon Axler's 'Linear Algebra Done Right', Third Edition
Syllabus: Chapters 1-5 of textbook; additional material TBD

How to do well in Math 0540. An important goal of this class is for you to become familiar with doing abstract mathematics and to learn how to construct and write proofs. You will learn best if you do a large number of problems and construct several proofs. Homework comprises 20% of the course grade; more importantly, doing the homework regularly is **essential** in learning the material.

- If you don't know how to begin a problem/proof, try something! Assume that your first approach will be wrong and you'll have to begin again. This is completely normal, even among professional mathematicians.
- Your biggest asset is a willingness to try several approaches and to be wrong a lot.
- Don't try to do a lot in your head – write things out.
- Once you've written out a proof that you think is correct, read it carefully to ensure that your language is precise. Your proof should be clear and convincing to another person – me/the grader/ your classmates – and not need any extra explanation.
- It helps to talk concepts through with others. Come to office hours. Look for classmates that you work well with. If you think you understand something, explain it clearly to someone. If you think you don't understand something, try to explain clearly exactly what you don't understand.
- Don't be alarmed if it's difficult at first – a steep learning curve is normal!

How to tell if this class is right for you this semester/ What to do if you think it isn't. This class picks up pace after a couple of weeks. The homework is a good indicator of how difficult the exams will be. Remember, though, that you will have no help during exams. If, two weeks into the semester, you are not able to do at least half of the homework problems without help, please reach out to me by email to discuss strategies.

The first midterm will be held in class on September 26, and your score will be available by October 1, which is before the deadline (October 2) to add a class with a $15 fee.

Linear Algebra is one of the most applicable subjects in mathematics. However, Math 0540 does an abstract, proof-based version of linear algebra – we will not cover any applications or computational approaches. If this is not to your taste, consider Math 0520 instead; it covers similar material in a less abstract way, with focus on computations and applications.

Homework policy. Homework comprises 20% of the course grade. It is posted on the course website and is due in class, at the beginning of class, on Fridays in general. No late HW will be accepted for any reason. Instead, I will drop your lowest two HW scores when computing your course grade.

Additional resources. You can get help with homework and with understanding course material at the Math Resource Center (`https://www.math.brown.edu/mrc/`). This might be especially useful when you cannot make it to office hours.

Handwritten lecture notes are posted on the course website after every class, and homework solutions are posted after the due date. Midterm and final solutions will also be made available.

Course grade.

- Midterm 1 – 20%
- Midterm 2 – 20%
- Final – 30%
- Homework – 20%
- Attendance and participation – 10%