Math 2106 Foundations of Mathematical Proof - Fall 2019
Class: MWF Skiles 256

Instructor	Jennifer Hom
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Office Hours	Tues 9-10 am, Wed 1-2 pm, and by appointment

Course website: `http://people.math.gatech.edu/~jhom6/2106`

Textbooks

1. Main textbook: *Book of Proof* by Richard Hammack (2nd edition, 2013). (Available at `http://www.people.vcu.edu/~rhammack/BookOfProof/BookOfProof.pdf`)

2. *Abstract Algebra: Theory and Applications* by Thomas Judson (Annual Edition, 2019). (Available at `http://abstract.pugetsound.edu/aata/`)

3. *Elementary Analysis: The Theory of Calculus* by Kenneth Ross (2013). (Available online through SpringerLink for GT students: `https://link.springer.com/book/10.1007/978-1-4614-6271-2`)

Prerequisites: Math 1552 (or equivalent) and Math 1553 (or equivalent)

Course synopsis: This course will give an introduction to proofs in advanced mathematics and is intended as a transition to upper division courses including Abstract Algebra I and Analysis I. Topics include the fundamentals of mathematical abstraction including sets, logic, equivalence relations, and functions, a thorough development of the basic proof techniques including direct, contrapositive, existence, contradiction, and induction, and an introduction to proofs in analysis and algebra.

Homework: There will be weekly homework sets. These are the best way for you to learn the material and prepare for exams. Resist the temptation to search for solutions on the internet as you will cheat yourself out of a learning opportunity! I highly encourage you to work with other students on the homework, but you must write up your problem set solutions on your own and include the names of all collaborators. **Late homework will not be accepted.** The lowest two homework scores will be dropped. You will receive 10% extra credit for typing up your homework assignments. LaTeX is recommended.

In-class assignments: In class assignments will be given regularly. They will be graded on a scale of 0-2 based on effort only. The lowest two scores will be dropped. No make ups will be provided, but if an in class assignment is missed due to an excused absence, it will be dropped from the final grade calculation.The lowest two scores will be dropped.

Exams: There will be two in-class exams and a final exam. No notes will be allowed. The tests are scheduled for:

- Test 1: Wednesday September 18, in class

- Test 2: Wednesday October 23, in class

- Final Exam: Friday December 6, 8:00-10:50 am

Participation: Attendance is important as we will move through concepts quickly and your participation in class will facilitate your learning as well as that of your classmates. Please be respectful of your classmates

and me by being punctual and staying on task. **Avoid the use of electronic devices in class unless you have discussed it with me.** Students who miss class are responsible for all material covered in lecture, as well as any announcements/assignments.

Grading: Your final grade will be computed as the highest of the following schemes:

	Standard	*Option 1*	*Option 2*
Homework	15%	15%	15%
In-class assignments	5%	5%	5%
Exams 1 & 2	50% (25% each)	25% (highest exam only)	60% (30% each)
Final Exam	30%	55%	20%
TOTAL:	100%	100%	100%

There is no curving on individual assignments - all results are recorded as numerical scores. The final grade cutoffs will not be established until the end of the semester and they will be based on the overall score distribution, as well as historical grade distributions for the course. Cutoffs will not be set higher than the standard ones (90 for A, 80 for B, 70 for C, 60 for D), but they may be lowered, depending on the difficulty of the assignments.

Tentative Course Schedule: A tentative course schedule is available at `http://people.math.gatech.edu/~jhom6/2106`.

Absences: You may only make up missed exams in the following circumstances:

- Institute sanctioned excuse: If you will miss any class days for an institute sanctioned reason, such as for religious holidays or institute sanctioned travel, you must give me official notice for all of them, by the end of class Friday August 31st. Any missed work must be made up *before* your absence. If you are missing one of the exams, you must email me at least a week before the exam to schedule a make-up.

- Illness: Except under extenuating circumstances, you must notify me *in advance.*

- In case of a family emergency, please contact me and the Dean's office.

Academic Dishonesty: All students are expected to comply with the Georgia Tech Honor Code (see `http://honor.gatech.edu` and `http://www.policylibrary.gatech.edu/student-life/academic-misconduct`). Any evidence of cheating or other violations of the Georgia Tech Honor Code will be submitted directly to the Dean of Students. Cheating includes, but is not limited to:

- Using a calculator, books, or any form of notes on quizzes or tests.

- Copying directly from any source, including friends, classmates, tutors, internet sources, or a solutions manual.

- Allowing another person to copy your work.

- Taking a test or quiz in someone else's name or having someone else take a test or quiz in your name.

- Asking for a regrade of a paper that has been altered from its original form.

- Fraudulently asking for an extension or make-up.

Students with Disabilities and/or in need of Special Accommodations: Georgia Tech complies with the regulations of the Americans with Disabilities Act of 1990 and offers accommodations to students with disabilities. If you are in need of classroom or testing accommodations, please make an appointment with the ADAPTS office to discuss the appropriate procedures. More information is available on their website, `http://www.adapts.gatech.edu`. Please also make an appointment with me to discuss your accommodation, if necessary.

Statement of Intent for Inclusivity: As a member of the Georgia Tech community, I am committed to creating a learning environment in which all of my students feel safe and included. Because we are individuals with varying needs, I am reliant on your feedback to achieve this goal. To that end, I invite you to enter into dialogue with me about the things I can stop, start, and continue doing to make my classroom an environment in which every student feels valued and can engage actively in our learning community.