MATH 1711, FINITE MATHEMATICS
SECTIONS C
Georgia Institute of Technology
COURSE SYLLABUS, Spring 2020

Welcome to Finite Mathematics! This course is designed to introduce you to the fundamental concepts of probability and matrix algebra. All of our students play an important role in our educational mission. We hope that you will find this to be a useful, fundamental course for your future studies.

Instructor and Contact Information

Instructor: Kisun Lee
Office: Skiles 139
Office Hours: TBA
E-mail: klee669@gatech.edu

Course Websites

Course Information: http://canvas.gatech.edu (*required*)
Textbook/Homework Access: http://www.mymathlab.com (*required*)
On-line Discussions: www.piazza.com (*highly recommended*)

Course Description and Learning Outcomes

Course Title: Finite Mathematics
Course Meeting Times: Lecture meets Tuesdays and Thursdays from 9:30-10:45 pm in Instructional Center 111. Studios for each section meet on Mondays and Wednesdays from 8:00-8:50 am in Skiles 269 (C1), 9:05-9:55 am in Skiles 168 (C2) and Skiles 269 (C3).

Teaching Assistants, Office Hours, and Meeting Locations:

TA	*Email Address*	*Studio Location*	*Office Hours*
Samuel Iselin	siselin@gatech.edu	Skiles 269	
Jarad Hosking	jaradhosking@gatech.edu	Skiles 168	

Textbook: Goldstein, Schneider, & Siegel, *Finite Mathematics & Its Applications*, 11th ed

MyMathLab Course Information: We will be utilizing the MyMathLab software for homework assignments. MyMathLab is required and contains an electronic version of the textbook. You can register for the course "Math 1711, Fall 2020" using the following process:

Our MML course is linked to Canvas this semester. Please login to your Canvas account, then go to the "My Lab and Mastering" tool on the left-hand menu. From the My Lab page, you can login to, or create, your MyMathLab account to access our course. You should not need to enter a course ID.

When signing up for MyMathLab, it will be immensely helpful to me (for grading purposes) if you will set your STUDENT ID to your USERID for the GT system (i.e., your T-square USERID, as in "gburdell3", etc).

MyMathLab comes with an entire electronic version of the textbook; it is your choice if you would also like to own the textbook in print. You may purchase a MyMathLab code either from the bookstore or on-line while registering at http://www.mymathlab.com. If you prefer to own a hardcopy of the text, the bookstore offers packages of MyMathLab

combined with a loose-leaf or hardcover version of the textbook that is less expensive than purchasing the text and code separately.

At the conclusion of Finite Mathematics, it is expected that:

- Students can work various types of counting and probability problems, including probability using counting, conditional probability, and binomial probability.
- Students have learned basic statistics, including measures of dispersion and the normal distribution.
- Students understand basic matrix operations, and can apply matrices to solving systems of linear equations.
- Knowledge of the above topics can be applied to business, economics, and finance.
- Probability and matrix operations can be used to solve applications, including Markov chains and game theory.

Course Organization and Participation

This course will consist of lectures and studios. You are required to attend all scheduled sessions at all times.

As your instructor, my role is to facilitate the lectures, coordinate with the teaching assistants to link lecture to studio, provide you with ample assignments and assessments to gauge your understanding and knowledge of the subject matter, provide feedback on your performance, and be available for assistance when needed.

As students, you are expected to take your responsibility seriously, attend and participate in all of the class discussions, behave in a respectful manner to your instructor, TA, and fellow students at each class meeting, complete all assignments in a timely and professional manner, study the subject matter outside of class time, and ask for help when necessary.

Course Requirements and Grading

HOMEWORK: Homework will be assigned on-line and will consist of exercise problems on MyMathLab. You are expected to understand **all** homework problems for the tests and quizzes. In order to increase the effectiveness of studio, you should attempt the problems **before** the weekly studio sections. Exercises on MyMathLab will be due every Saturday at 11:59 PM (except during class recesses or as announced in class). The lowest homework grade will be dropped. **No late homework will be accepted**. Please note: the final graded homework assignment will be due on ***Monday, April 13***.

PARTICIPATION: Class participation will be based on your attendance in the lectures. We will use Learning Catalytics to measure lecture attendance, beginning on the second week of classes. Learning Catalytics is free with your MyMathLab subscription, and can be accessed either through MyMathLab, or at learningcatalytics.com. You will need to bring an internet-capable device to class in order to access these questions.

STUDIOS: Studios will be run in a partially "flipped" classroom environment. That means: the TAs will expect that you have attended lecture and reviewed the textbook before class, and they will not lecture on the course material. Instead, you will spend the studio time working on practice problems. Your TA will measure participation through attendance and effort during the studio sessions.

QUIZZES AND TESTS: We will have four 20-minute quizzes and three 75-minute tests during the term. Quizzes will be given during the first 20 minutes of studio, and tests will last for the entire lecture period. Quizzes and tests will be administered on the following days:

- 15 January – Quiz #1
- 28 January – Test #1

- 12 February – Quiz #2
- 25 February – Test #2
- 11 March – Quiz #3
- 31 March – Test #3
- 15 April – Quiz #4

No books, notes, calculators, cell phones, or other electronic devices are allowed during the tests and quizzes.

FINAL EXAM: The final exam will cover all course materials and will be administered on **Thursday, Apr 30,** from 11:20am-2:10pm. Students who have an overall course average of 95% or higher after the last quiz, where ALL quizzes and tests are counted and no extra credit has been applied, may exempt the final exam.

Your final average will be computed as follows:

Assignment	***Weighting***
Participation	5%
Homework	10%
Quizzes (5% each)	20%
Best 2 Tests (15% each)	30%
Lowest Test	10%
Final Exam	25%

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Letter grades will be determined based on the following intervals. ***Do not expect any deviation from the following scale:***

A: 90% and higher
B: [80%, 90%)
C: [70%, 80%)
D: [60%, 70%)
F: [0%, 60%).

Midterm grades will be assigned on **February 17**. A satisfactory grade will be assigned to all students with a midterm average of 70% or higher (based on the above weighting of grades).

Class Policies

Attendance: You are expected to come prepared and actively participate in every lecture and studio session. In the event of an absence, you are responsible for all missed materials, assignments, and any additional announcements or schedule changes given in class.
Class disruptions of ANY kind will NOT be tolerated and may result in your removal from the classroom and/or loss of participation points for that day.
Please show courtesy to your fellow classmates and instructor by adhering to the following class rules:

- Turn off all laptops, cellular phones, i-pods and other electronic devices, unless you have a *documented* need to use such devices for note-taking, during class.
- Come to class on time and stay for the entire class period.
- Refrain from conversing with your fellow students.
- Put away any reading materials unrelated to the course.

Academic Dishonesty: All students are expected to comply with the Georgia Tech Honor Code (the honor code can be found at http://osi.gatech.edu/content/honor-code). 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 an unapproved calculator, books, or any form of notes on tests.
- Copying directly from **any** source, including friends, classmates, tutors, internet sources (including Wolfram Alpha), 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.
- Using someone else's account to gain attendance or homework points for them, or asking someone else to use your account for any graded homework or attendance submission.

Regrading of Papers: If a problem on your test has been graded in error, you must submit a regrade request to your instructor (not your TA!) **in writing,** along with your paper, no more than *one week* after the tests have been returned in class. Should you wish to have your paper regraded, *do not change or add to the work on your paper*! If you must write on your returned paper, be sure to write in a different color ink and clearly indicate what you have added. A regrade request can only be submitted if you have done something CORRECT on your test that has been marked as incorrect.

Make-Ups: In an emergency situation, a make-up test or quiz may be allowed if your instructor is notified prior to the exam and provided with a reasonable, **written** confirmation of your absence. Any make-ups must be completed before the corresponding test has been graded and returned to other students. If you will miss a test due to a university-sponsored event or athletics, please provide your instructor with the official documentation in advance.

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 Office of Disability Services to discuss the appropriate procedures. More information is available on their website, http://disabilityservices.gatech.edu/. Please also make an appointment with your instructor to discuss your accommodation, if necessary.

Calculators: While you may need a calculator for help with some of the homework problems, the use of calculators is NOT ALLOWED on in-class assessments.

Announcements: *You are responsible for obtaining any announcements or materials placed on your instructor's web pages.* Please see your instructor page for a list of important websites.

Additional Help: *Asking questions is a key to success!* Please stop by your instructor's or TA's office hours whenever you have questions. Free help is also available Monday-Thursday afternoons in the Math Lab, located on the second floor of Clough Commons.

Please note: *items on the syllabus and course schedule are subject to change. Any changes to the syllabus and/or course schedule will be relayed to the students in class and through e-mail.*

Campus Resources for Students

In your time at Georgia Tech, you may find yourself in need of support. Below you will find some resources to support you both as a student and as a person.

Academic support

- Center for Academic Success http://success.gatech.edu
    - 1-to-1 tutoring http://success.gatech.edu/1-1-tutoring

    - Peer-Led Undergraduate Study (PLUS) http://success.gatech.edu/tutoring/plus
    - Academic coaching http://success.gatech.edu/coaching
- Residence Life's Learning Assistance Program https://housing.gatech.edu/learning-assistance-program
    - Drop-in tutoring for many 1000 level courses
- OMED: Educational Services (http://omed.gatech.edu/programs/academic-support)
    - Group study sessions and tutoring programs
- Communication Center (http://www.communicationcenter.gatech.edu)
    - Individualized help with writing and multimedia projects
- Academic advisors for your major http://advising.gatech.edu/

Personal Support

Georgia Tech Resources

- The Office of the Dean of Students: http://studentlife.gatech.edu/content/services; **404-894-6367**; Smithgall Student Services Building 2nd floor
    - You also may request assistance at https://gatech-advocate.symplicity.com/care_report/index.php/pid383662?
- Counseling Center: http://counseling.gatech.edu; **404-894-2575**; Smithgall Student Services Building 2nd floor
    - Services include short-term individual counseling, group counseling, couples counseling, testing and assessment, referral services, and crisis intervention. Their website also includes links to state and national resources.
    - *Students in crisis may walk in during business hours (8am-5pm, Monday through Friday) or contact the counselor on call after hours at **404-894-2204**.*
- Students' Temporary Assistance and Resources (STAR): http://studentlife.gatech.edu/content/need-help
    - Can assist with interview clothing, food, and housing needs.
- Stamps Health Services: https://health.gatech.edu; **404-894-1420**
    - Primary care, pharmacy, women's health, psychiatry, immunization and allergy, health promotion, and nutrition
- OMED: Educational Services: http://www.omed.gatech.edu
- **Women's Resource Center: http://www.womenscenter.gatech.edu; 404-385-0230**
- **LGBTQIA Resource Center: http://lgbtqia.gatech.edu/; 404-385-2679**
- **Veteran's Resource Center: http://veterans.gatech.edu/; 404-385-2067**
- **Georgia Tech Police: 404-894-2500**

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.

Important Dates Throughout the Term

6 January – First Day of Classes
15 January – Quiz #1
20 January – Martin Luther King, Jr. National Holiday (No Class)
28 January – Test #1
12 February – Quiz #2
17 February – Progress Reports Due
25 February – Test #2

11 March – Quiz #3
11 March – Last day to withdraw with a grade of "W"
16-20 March – Spring Break (No Class)
31 March – Test #3
15 April – Quiz #4
20 April – Final Instructional days
30 April – Final Exam (Thursday, 11:20am–2:10pm)

Tentative Course Schedule

Week and Dates	***Section Coverage***	***Topics***
Week 1 January 6-10	5.1 5.2-5.3	Sets Venn Diagrams and Counting
Week 2 January 13-17	5.4 5.5-5.6	The Multiplication Principle Permutations and Combinations Quiz #1
Week 3 January 20-24	5.7 5.8	The Binomial Theorem Multinomials
Week 4 January 27-31	6.1-6.2	Sample Spaces, Assigning Probability Test #1
Week 5 February 3-7	6.3 6.4	Probability Using Counting Conditional Probability and Independence
Week 6 February 10-14	6.5-6.6	Tree Diagrams and Bayes' Theorem Quiz #2
Week 7 February 17-21	7.2 7.3 7.4	Probability Distributions Binomial Trials Mean
Week 8 February 24-28	7.5 7.6	Variance The Normal Distribution Test #2
Week 9 March 2-6	7.7 2.1	Normal Approximation to the Binomial Introduction to Gauss-Jordan Elimination
Week 10 March 9-13	2.2 2.3	Gauss-Jordan Elimination Matrix Operations Quiz #3
Week 11 March 16-20	Spring Break	Spring Break
Week 12 March 23-27	2.4 2.5	Matrix Inverse
Week 13 March 30 – April 3	3.1-3.3	Linear Programming Test #3
Week 14 April 6-10	8.1-8.3 9.1	Markov Chains, Absorbing Matrices Game Theory
Week 15 April 13-17	9.2-9.3	Pure and Mixed Strategy Games Quiz #4
Week 16 April 20-21	Final Exam Review	Final Exam Review