

A SECOND COURSE ON LINEAR ALGEBRA

This course is an introduction to the fundamentals of linear algebra.

Instructor and Contact Information

Instructor: Anton Leykin
Office: Skiles 109
Office Hours: Mon 2-3pm, Fri 2-3pm, or by appointment.
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Course Websites

Course Web Page: <http://people.math.gatech.edu/~aleykin3/math3406-fall2016>
Course Information: t-square.gatech.edu (*required*)
Learning Catalytics: <https://learningcatalytics.com> (*required*)
On-line Discussions: <https://piazza.com/gatech/fall2016/math3406a/home> (*required*)

Course Description and Learning Outcomes

Course Meeting Times: Lecture meets Tue and Thu from 1:35 to 2:55pm in Clough 423.

Textbook (cost=\$0): Go to <http://www.library.gatech.edu/> and type “*Axler linear algebra done right*” in the search box. Choose “online access” and download the book in PDF.

LC (cost=\$12): Create an account at <https://learningcatalytics.com> unless you have one already.

When signing up for LearningCatalytics, it will be immensely helpful (for grading purposes) if you will set your STUDENT ID to your USERID for the GT system (e.g., “gburdell3”).

In-class exercises will be delivered through LC.

Course Organization

The course will be “semi-flipped”, which means that you will be given a reading assignment covering (mostly introductory) material for the next lecture (shortly after the preceding lecture). There will be several LC questions asked at the beginning of each class to check your knowledge.

We will split the class time between the lecture and more LC sessions with individual exercises and group work.

Course Requirements and Grading

LC: See above.

HOMEWORK: Homework will be assigned on <https://piazza.com/gatech> and will consist of exercises from textbook and additional exercises. You are expected to understand **all** homework problems for the tests. Homework is due at the **beginning** of the Tue class. **No late homework will be accepted.**

TESTS: We will have three 50-minute tests during the term: see *Important Dates*.

FINAL EXAM: The final exam will cover all course materials. All students must take the final examination.

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

GRADES:

Your course score will be computed according to the following:

	<i>Percentage</i>	<i>Scores dropped/replaced?</i>
LC exercises	15%	
Homework	15%	The lowest score is dropped.
Tests	15% each	In case of a documented absence, the missing score is replaced by the score on the final.
Final Exam	25%	

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 **September 30**. 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. 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.

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.
- 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://www.policylibrary.gatech.edu/student-affairs/code-conduct>). 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 tests.
- Copying from *any* source, including 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.

Regrading of Papers: If a problem on your test has been graded in error, you must submit a regrade request *in writing*, along with your paper, no more than *one week* after the tests have been returned in class. A regrade request can only be submitted if you have done something CORRECT on your test that has been marked as incorrect. You MUST check your answers with the solutions BEFORE submitting such a request.

Make-Ups: There will be no make-ups. Should you have to miss any classes due to medical or other emergencies, athletics events, etc., please take steps to document your absence with the Office of the Dean of Students. See <http://www.studentlife.gatech.edu/content/class-attendance>.

Students with Disabilities and/or in need of Special Accommodations: 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.

Announcements: *You are responsible for obtaining any announcements or materials placed on T-square and Piazza.*

Additional Help: *Asking questions is a key to success!* Please stop by your lecturer'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. It is also to your advantage to participate in homework and reading assignments discussions on Piazza.

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.*

Important Dates Throughout the Term:

22 August – First Day of Classes

5 September – Labor Day (No Class)

20 September – Test #1

30 September – Progress Reports Due

8-11 October – Fall Recess (No Class)

18 October – Test #2

29 October – Last day to withdraw with a grade of "W"

15 November – Test #3

23-27 November – Thanksgiving Break (No Class)

6 December – Last Day of Classes

15 December (2:50pm – 5:40pm) – Final Exam

Tentative Topics:

Review of basic linear algebra [Ch. 1-3]

New vector spaces from old ones [Ch. 3]

Polynomials [Ch. 4]

Eigenvalues and eigenvectors [Ch. 5]

Inner product spaces and orthogonality [Ch. 6]

Operators on inner product spaces [Ch. 7]

Complex vector spaces and canonical forms [Ch. 8]

Trace and determinant [Ch. 10]