

## COURSE SYLLABUS

Welcome to Calculus II! This course is designed to introduce you to the fundamental concepts of infinite series and introductory linear 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:** Xander Flood

**Office:** Skiles 140

**Office Hours:** TBA (During the first week, MF 10:40-11:30)

**Office Phone:** (404) 385-7525

**Math Lab:** TBA

**E-mail:** [aflood3@math.gatech.edu](mailto:aflood3@math.gatech.edu)

## Course Websites

**Course Information:** [t-square.gatech.edu](http://t-square.gatech.edu)

**Textbook/Homework Access:** <http://www.mymathlab.com>

**On-line Discussions:** [www.piazza.com](http://www.piazza.com)

## Course Description and Learning Outcomes

**Course Title:** Calculus II

**Course Meeting Times:** Lecture meets Monday, Wednesday, and Friday from 9:20-10:30 am in Weber SST III Recitations meet on Tuesday and Thursday from 12:00-1:10 pm (see locations below).

## Teaching Assistants, Office Hours, and Meeting Locations:

Section	TA	Email Address	Recitation Location	Office Hours
A1/SOUP	Chen, Jiangning	<a href="mailto:jchen444@math.gatech.edu">jchen444@math.gatech.edu</a>	College of Computing, 117	TBA
A2	Xie, Qiqin	<a href="mailto:qxie7@math.gatech.edu">qxie7@math.gatech.edu</a>	Skiles 255	TBA
A3	To be merged with another section			

## Textbooks:

1. Thomas, *Calculus: Early Transcendentals*, 13<sup>th</sup> ed. We will discuss topics in chapters 8, 9, and 10.
2. Lay, *Algebra and Its Applications*, 4<sup>th</sup> ed. We will cover most of chapters 1-6.

**MyMathLab Course Information:** We will be utilizing MyMathLab (MML) for homework through a joint code for the Thomas *Calculus* text and the Lay *Linear Algebra* text. In order to register, you will need our course id listed below.

**MyMathLab Course ID:** flood80953

Important notes on MML:

- If you already have an account on MyMathLab using this combined textbook within the past 18 months, then you do not need to purchase a new code. Login to your account on MyMathLab, select the option to add a new course, and enter our course ID.

- If you already have a MyMathLab account that used either the Thomas or the Lay textbook in the past 18 months, but you were unable to add our course using the previous step, please send an email to [gatechmath@yahoo.com](mailto:gatechmath@yahoo.com) and include the following information:
  - Your First and Last Name
  - The email address used to register for MML
  - Your Login ID for MML
  - Our course ID (listed above) for Fall 2014

You should receive a reply within 36 hours from the Pearson support team regarding your account status. In the meantime, you can access our course using the “temporary access” option when registering. Please do not pay for a new code until you receive a reply from Pearson.

- If you do not have a MyMathLab account using the Thomas or Lay textbooks, or if your account is over 18 months old, you will need to purchase a new code for our course. Please refer to the registration document, located in the “Resources” section on t-square, to create your new account.

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

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 Thomas textbook that is less expensive than purchasing the text and code separately.

**PLEASE NOTE: GEORGIA TECH HAS A SPECIAL CODE PACKAGE THAT INCLUDES BOTH TEXTBOOKS. THIS CODE CAN ONLY BE PURCHASED THROUGH THE CAMPUS BOOKSTORES OR DIRECTLY FROM PEARSON. CODES PURCHASED BY OTHER VENDORS WILL NOT WORK!**  
Possible ISBNs for this text are: 1269861298, 1269891596, 1256954721, 1269861328, 1269936069.

*At the conclusion of Calculus II, it is expected that:*

- Students have mastered basic Calculus concepts, including convergence of integrals and infinite series, Taylor’s theorem, and elementary differential equations.
- Students have mastered basic linear algebra concepts, including solving systems of linear equations, applying linear transformations, calculating determinants and finding eigenvalues.
- Knowledge of the above concepts can be exhibited algebraically and geometrically.
- Calculus and linear algebra concepts can be used to solve applied physics, geometry, and numerical approximation problems.
- Students are able to use these various techniques to solve applications without a calculator.

### **Course Organization and Participation**

This course will consist of lectures and recitations, each meeting twice per week. 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 recitation, 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 both your instructor 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 recitation, you should attempt the problems **before** the weekly recitation sections. Exercises on MyMathLab will be due every Thursday 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 Thursday, July 23rd.

**PARTICIPATION:** Class participation will be based on your attendance in the lectures. We will use TurningPoint clickers to measure lecture attendance, beginning on the second week of classes. You must register your clicker ID on t-square in order to receive credit for class attendance. Clickers may be purchased from the Georgia Tech bookstore or you may purchase a virtual clicker app through the Responseware software.

Participation will make up 5% of each student's final grade. 3% percent will be based on clicker participation from lecture, and 2% will be assigned at the discretion of your recitation TA based on your attendance, attentiveness, and in-class participation.

**RECITATIONS:** The TAs will expect that you have attended lecture and reviewed the textbook before class, and may or may not choose to lecture on any course material. Instead, you should expect to spend your recitation time working on practice problems. Your TA will measure participation through attendance and effort during the recitation sessions.

**EXTRA CREDIT:** At various points in the semester, I will give opportunities for extra credit wherein I will select one of the class topics and a student may submit a brief paragraph describing a specific way this tool is used in an area of science or engineering of their choice. More details will be given via T-Square announcements when these extra credit assignments are made available, and they will not count for more than 2% of your final grade in total.

**QUIZZES AND TESTS:** We will have four 20-minute quizzes and three 50-minute tests during the term. Quizzes will be administered using the TurningPoint clickers during the first 20 minutes of lecture, and each test will take place during one full recitation period. No books, notes, calculators, cell phones, or other electronic devices are allowed during the tests and quizzes.

*Tentative* dates and content for each quiz and test can be found in the course schedule at the end of this document. More specific information will be released via T-Square or Piazza announcements as each assessment draws nearer.

**FINAL EXAM:** The final exam will cover all course materials and will be administered on **Thursday, July 30**, from 11:30am-2:20pm. All students must take the final examination.

*Your final average will be computed as the highest score from the following three grading schemes:*

<b>Option</b>	<b>Count all tests and quizzes</b>	<b>Drop lowest quiz</b>	<b>Drop lowest test</b>
Participation	5%	5%	5%
Homework	10%	10%	10%
Quizzes (6% each)	24%	18%	24%
Tests (12% each)	36%	36%	24%
Final Exam	25%	31%	37%

*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%).

### **Class Policies**

**Attendance:** You are expected to come prepared and actively participate in every lecture and recitation session. Attendance in lecture will be taken by use of TurningPoint Technology clickers. 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 cell phone ringers and other noises during class.
- Come to class on time and stay for the entire class period.
- Discussion with classmates should be kept to a respectable volume, and should under no circumstances present a distraction to your neighbors.

**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 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 clicker to gain attendance points or to take quizzes or tests for them, or asking someone else to use your clicker for any graded or attendance submission.

**Regrading of Papers:** If a problem on your test has been graded in error, you must submit a regrade request to me (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 will only be considered 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. If you are unsure whether your solution is correct, you may consult your TA, but the eventual regrade request MUST be submitted directly to the lead instructor by the student for the final decision.

**Make-Ups:** In an emergency situation, I may allow a make-up test if I am 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 me 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 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 you have any questions about the appropriate procedures.

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

**Announcements:** All essential course announcements will be made through T-square (<http://t-square.gatech.edu>) and Piazza (<https://piazza.com/class/i9hew88ye5i7id>). It is the student's responsibility to set up email notifications of announcements, or to check both sources regularly. It is also the student's responsibility to frequently check MyMathLab ([www.mymathlab.com](http://www.mymathlab.com)) for changes to the homework schedule.

**Additional Help:** *Asking questions is a key to success!* Please stop by my office hours or your 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.*

**Important Dates Throughout the Term**

**11 May** – First Day of Classes

**15 May**-- Last day to withdraw without a grade of "W"

**25 May**-- Official school holiday: Memorial Day

**28 June**-- Last day to withdraw with a grade of "W"

**3 July**-- Official school holiday: Independence Day

**24 July**-- Last Day of Classes

**30 July**-- Final Exam

**4 August**-- Final grades available

**Tentative Course Schedule**

Please use this as an approximate class schedule; section coverage may change depending on the flow of the course. Textbook code: (T) Thomas, (L) Lay.

<i>Week</i>	<i>Dates</i>	<i>Section Coverage</i>	<i>Topics</i>	<i>Important dates</i>
1	May 11-15	(T) 7.2 (T) 9.2 (T) 4.5	Separable differential equations First-order linear differential equations L'Hôpital's rule	
2	May 18-22	(T) 8.8 (T) 10.2-10.4	Improper integrals Infinite series Integral and comparison tests	No class Monday <b>Quiz #1:</b> Fri, May 22
3	May 25-29	(T) 10.5-10.7	Root and ratio tests Alternating series Power series	
4	June 1-5	(T) 10.8-10.10 (L) 1.3-2.1	Taylor and Maclaurin series Matrices and vectors	<b>Test #1:</b> Thu, Jun 3
5	June 8-12	(L) 6.1-6.2 (T) 12.3-12.5	Dot products and projections Cross products Lines and planes	
6	June 15-19	(L) 1.1-1.2, 1.4, 1.5 (L) 1.3, 1.7	Gauss-Jordan elimination Linear independence	<b>Quiz #2:</b> Wed, Jun 10
7	June 22-26	(L) 1.8-1.9 (L) 2.1 (L) 2.2	Linear transformations Matrix operations Inverses	<b>Test #2:</b> Thurs, Jun 25
8	June 29-July 3	(L) 2.5 (T) 3.1, 3.2	LU factorization Determinants	No class Friday
9	July 6-10	(L) 4.3 (L) 5.1-5.2	Bases Eigenvalues and eigenvectors	<b>Test #3:</b> Thurs, Jul 9
10	July 13-17	(L) 5.3 (L) 7.1-7.2	Diagonalization Symmetric matrices	<b>Quiz #3:</b> Wed, Jul 15
11	July 20-24	(L) 6.3-6.4 (L) 6.5	Gram-Schmidt and QR factorization Least-Squares Final Review	