MATH 1552: INTEGRAL CALCULUS
SAMPLE COURSE SYLLABUS

Welcome to Integral Calculus! This course is designed to introduce you to the fundamental concepts of integration and infinite series. 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: Klara Grodzinsky
Office: Skiles 232, 404-894-4397 (or leave a message at 404-894-2700)
Office Hours: Tuesdays and Thursdays, 8:45-9:15 am and 12:30-1:30 pm; and by appointment
E-mail: klarag@math.gatech.edu

Course Websites

Instructor's Web Page: http://people.math.gatech.edu/~klarag
Course Information: t-square.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: Integral Calculus
Course Meeting Times: Lecture meets Tuesdays and Thursdays from 9:35-10:55 am in Physics L1. Recitations meet on Mondays and Wednesdays from 9:05-9:55 am (see locations below).

Teaching Assistants, Office Hours, and Meeting Locations:

TA	*Email Address*	*Recitation Location*	*Office Hours*
Andrew McRae	admcrae@gatech.edu	Skiles 268	W 10:00-12:00, Skiles 230
Akshay Shukla	ashukla33@gatech.edu	Skiles 270	M 1:05-2:05, Skiles 230
Aishwarye Chauhan	achauhan30@gatech.edu	Skiles 271	M 10:00-11:00, Skiles 230
Evan Lee	elee337@math.gatech.edu	Skiles 256	W 1:10-2:50, Skiles 146A
Jeffrey McNabb	jmcnabb3@gatech.edu	Skiles 257	W 2:30-3:30, Skiles 230
Edwin White	ewhite9@gatech.edu	Skiles 371	MW 10:00-12:00, Skiles 230
Xiaowen Sun	xsun305@math.gatech.edu	Skiles 311	W 3:00-4:00, Skiles 140

Textbook: Thomas, *Calculus: Early Transcendentals,* 13th ed. We will discuss topics in chapters 5-10.

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: grodzinsky83679

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 texbook 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 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 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 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 Integral Calculus, it is expected that:

- Students have mastered basic Calculus concepts, including integration, convergence of integrals and infinite series, Taylor's theorem, and elementary differential equations.
- Knowledge of the above concepts can be exhibited algebraically and geometrically.
- Calculus 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

This course will consist of lectures and recitations, each meeting twice per week. You are required to attend all scheduled sessions at all times. The Center for Academic Success will also provide our class with a PLUS ("Peer Led Undergraduate Study") leader. PLUS sessions will also meet twice per week. These sessions are optional, but strongly encouraged.

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 Monday and 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 Wednesday, November 26.

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.

RECITATIONS: Recitations 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 recitation time working on practice problems. Your TA will measure participation through attendance and effort during the recitation sessions. The TAs will assign each student a score from 0-2 at the end of the term, which will be added onto the final class average (affecting all "borderline" grades).

QUIZZES AND TESTS: We will have four 20-minute quizzes and three 50-minute tests during the term. Quizzes will be given during the first 20 minutes of recitation, and tests will be administered during the last 50 minutes of the lecture period. Quizzes and tests will be administered on the following days:

- Quiz 1: Wednesday, August 28
- Test 1: Thursday, September 11
- Quiz 2: Wednesday, September 24
- Test 2: Thursday, October 9
- Quiz 3: Wednesday, October 22
- Test 3: Thursday, November 6
- Quiz 4: Wednesday, November 19

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 **Tuesday, December 9,** from 8:00-10:50am. All students must take the final examination.

Your final average will be computed as follows:

Option	***Count all tests and quizzes***	***Drop lowest quiz***	***Drop lowest test***
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%
Recitation	Up to 2% extra	Up to 2% extra	Up to 2% extra

In all cases, you will receive the higher of the average options.

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 26**. 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 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 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://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 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: 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 necessary.

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: I will frequently update the class pages with class information and materials. *You are responsible for obtaining any announcements or materials placed on my web page* (http://people.math.gatech.edu/~klarag), *MyMathLab* (www.coursecompass.com), *or T-square* (t-square.gatech.edu). Though not required, it is also to your advantage to join our class page on Piazza (www.piazza.com) so you can view/participate in course-related discussions.

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

18 August – First Day of Classes
30 August – Quiz #1
1 September – Labor Day (No Class)
11 September – Test #1
24 September – Quiz #2
26 September – Progress Reports Due
9 October – Test #2
10 October – Last day to withdraw with a grade of "W"
11-14 October – Fall Recess (No Class)
22 October – Quiz #3
6 November – Test #3
19 November – Quiz #4
27-28 November – Thanksgiving Break (No Class)
5 December – Last Day of Classes
9 December – Final Exam

MATH 1552, Sections D1-D7 **FALL 2014**

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.

Week and Dates	***Section Coverage***	***Topics***
Week 1 August 18-22	Chapter 3 Section 4.8 Section 5.1	Review of Differentiation Review of Anti-derivatives Area under the curve
Week 2 August 25-29	Sections 5.2-5.3 Section 8.7	Sigma Notation and The Definite Integral Numerical Integration Quiz #1
Week 3 September 1-5	Sections 5.4-5.6	The Fundamental Theorem of Calculus Integration by Substitution; Area between Curves
Week 4 September 8-12	Section 7.1 Section 7.2	Logs as Integrals Exponentials and Separable DEQs Test #1
Week 5 September 15-19	Sections 8.2-8.3	Integration by Parts Integration of Products and Powers of Trig Functions
Week 6 September 22-26	Sections 8.4-8.5	Trig Substitutions and Partial Fractions Quiz #2
Week 7 September 29-October 3	Section 8.5 Section 4.5	Partial Fractions (continued) L'Hopital's Rule
Week 8 October 6-10	Section 8.8	Improper Integrals Test #2
Week 9 October 13-17	Section 9.2	First-Order Linear Differential Equations
Week 10 October 20-24	Sections 10.1-10.2 Section 10.3	Infinite Sequences and Series Integral Test Quiz #3
Week 11 October 27-31	Sections 10.4-10.5	Comparison Tests Ratio and Root Tests
Week 12 November 3-7	Sections 10.6-10.7	Alternating Series Power series Test #3
Week 13 November 10-14	Sections 10.7 Sections 10.8-10.9	Power Series (continued) Taylor and MacLaurin Series
Week 14 November 17-21	Section 10.9 Sections 6.1-6.2	Convergence of MacLaurin Series Volumes by Disks and Shells Quiz #4
Week 15 November 24-28	Section 6.3 Section 6.5	Arc Length Work
Week 16 December 1-5	Section 6.5 Section 6.6	Work (continued) Center of Mass (time permitting) Review for Final Exam