Math 2551 Multivariable Calculus (CRN 55055)

Summer 2020

1. Course Description

Course Title : Multivariable Calculus
Course Meeting Times : MWF 12:30 - 13:45 (Eastern Standard Time)
Course Meeting Location : Weber SST III 1

Studio	Time	Location
A01	TR 12:30 - 13:45	Van Leer C456
A02	TR 12:30 - 13:45	Van Leer C457
A03	TR 12:30 - 13:45	Skiles 246

2. Instructor and TA Contact Information

Instructor : Dr. Shuenn **Siang** Ng
Office Hours : MWF 10:00 am – 11:30 am or by appointment
Cell Phone : 770-713-9250 (text)
Email : ng@math.gatech.edu (preferred)

Office : Skiles 221
Online Hours : Th 10:00 am - 11:30 pm
Office Phone : 404-894-2832

Teaching Assistant	On Campus Office Hours	Office	Email

Teaching Assistant	BlueJean Online Office Hours	Email

3. Pre-Requisites

MATH 1502 OR MATH 1512 OR MATH 1555 OR MATH 1504 ((MATH 1552 OR MATH 15X2 OR MATH 1X52) AND (MATH 1522 OR MATH 1553 OR MATH 1554 OR MATH 1564 OR MATH 1X53))

4. Textbook

Thomas, Calculus: Early Transcendentals 14th edition by Addison-Wesley (Pearson).

5. Course Websites

Course Website: canvas.gatech.edu
Canvas will be used for course grades, announcements, and course-related documents.

Piazza: https://piazza.com/gatech/summer2019/math2551/home
The Piazza forum is highly catered to getting your help fast and efficiently from classmates, the TAs, and myself. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza if your questions have nothing to do with your privacy. You may post on Piazza anonymously if that makes you more comfortable. Everyone in class should feel absolutely free to ask questions, discuss, help, comment, explore, and exchange ideas on Piazza.

The only restriction I like to impose on Piazza is: **please do not discuss exam problems and solutions**. Of course you are welcome to discuss them with me and your TA in private.

MyMathLab: https://www.pearsonmylabandmastering.com/northamerica/mymathlab/
Please enroll into my course on MyMathLab before May 27th, 2020 through Canvas.

6. Course Requirements & Grading

3 Tests (1 hour 15 minutes), and a comprehensive Final Exam (2 hours 50 minutes)

For QUP section, you will have a 12 hours time window to take the test and final exam. You will need a physical proctor when you are taking a test or the final exam.

6.1 Homework

There will be online Homework through MyMathLab. Homework on MyMathLab will be due at **11:59 pm EST on Wednesdays**. The lowest homework grade will be dropped.

6.2 Tentative Test Schedule

Test	Date	Place
Test 1	06/03 (Wednesday)	Lecture Room
Test 2	06/24 (Wednesday)	Lecture Room
Test 3	07/15 (Wednesday)	Lecture Room

Final Exam is on **Friday, July 24 at 11:20 AM - 2:10 PM** in the Lecture Room.

6.3 Description of Graded Components

Your course average will be weighted as follows:

Weighted Average	
Homework	10%
Test 1	20%
Test 2	20%
Test 3	20%
Final Exam	30%

Note that the lowest test score will be replaced by the average of all three tests.

6.4 Grading Scale

Your final grade will be assigned as a letter grade according to the following scale:

A	[90%,999%)
B	[80%,90%)
C	[70%,80%)
D	[60%,70%)
F	[0%,60%)

7. Learning Outcomes and Topics

7.1 Course Content

Math 2551 is an introduction to multivariable calculus. Topics include:

- Vectors and the Geometry of space, vector calculus, parametric curves and motion
- Functions of several variables, visualization and partial differentiation, gradients, optimization, Lagrange multipliers, linear approximation, tangent planes, differentials
- Double and triple integrals, applications
- Vector analysis including the theorems of Green, Gauss, and Stokes

7.2 Learning Outcomes

The primary goal of Math 2551 is prepare students to succeed in upper level courses that require this course as a pre-requisite. Upon successful completion of the course, students will be able to:

- understand and demonstrate the basic theory of calculus of function in several real variables;
- evaluate partial derivatives and multiple integrals; compute line integrals and surface integrals;
- apply the knowledge to solve some practical problems, such as constrained optimization problems and other problems involving differentiation and integration of multivariable and vector-valued functions.

8. Course Expectations & Guidelines

8.1 Attendance

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.
Come to class on time and stay for the entire class period.
Refrain from conversing with your fellow students while the instructor is lecturing.
Put away any reading materials unrelated to the course.
Please refrain from using laptops, they are a distraction to others.
Please do not bring food to eat during lectures, eating is a distraction to others.

8.2 Academic Dishonesty

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit http://www.catalog.gatech.edu/policies/honor-code/ or http://www.catalog.gatech.edu/rules/18/. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

8.3 Students with Disabilities and/or in need of Special Accommodations

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or http://disabilityservices.gatech.edu/, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

8.4 Exam Procedure

- In each exam (tests and the final), all notes, books, calculators, computers, electronic devices etc. are not allowed.
- Tests and the Final Exam are given in the lecture room.

8.5 Re-Scheduled/Missed Exams

NO MAKE-UP EXAMS! In general, no make-up exams will be given and any missed exam results in a "0" score.

- If you have a valid reason to request a make-up exam, please contact the instructor as early as possible. Only extraordinary cases will be considered.
- In the case of SERIOUS illness, please contact me BEFORE the exam and get a doctor's note.
- In the case of emergency, please contact the Office of Dean of Students immediately.
- Requests for student organization excused absences must be made no later than two weeks prior to the date of the event. No late requests will be honored. Please have your advisor send me a written notice or an e-mail.

8.6 Regrading Requests

Any regrading request should be submitted to me (not to the TA), with the graded exam in the original unaltered form, within one week of the date the exam has been returned to the class. Please do not write ANYTHING on the original graded exam.

8.8 Student-Faculty Expectations Agreement

At Georgia Tech we believe that it is important to strive for an atmosphere of mutual respect, acknowledgment, and responsibility between faculty members and the student body. See http://www.catalog.gatech.edu/rules/22/ for an articulation of some basic expectation that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

9. 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.

9.1 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
- OMED: Educational Services (http://omed.gatech.edu/programs/academic-support)
  - Group study sessions and tutoring programs
- Communication Center (http://www.communicationcenter.gatech.edu)
  - o Individualized help with writing and multimedia projects
- Academic advisors for your major

9.2 Personal Support

- 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

10. 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.

11. Tentative Course Schedule

Date	Section Coverage
05/11-05/17	12.2-12.6,13.1
05/18-05/24	13.2- 13.5
05/25-05/31	14.1-14.3
06/01-06/07	14.4-14.7 (Test 1)
06/08-06/14	14.8-14.9, 15.1-15.3
06/15-06/21	15.4-15.7
06/22-06/28	15.8, 16.1 (Test 2)
June 27	**Last day to Withdraw**
06/29-07/05	16.2-16.3
07/06-07/12	16.4-16.6
07/13-07/19	16.7-16.8 (Test 3)
07/20-07/21	Last Class
July 26	**Final Exam**

Some Important Dates

May 13	First Day of Classes
May 25	Memorial Day Holiday (No class)
June 3	Test 1
June 24	Test 2
July 15	Test 3
July 24	Final Exam

This syllabus provide a general plan for the course; deviations may be necessary.