

VIRGINIA COMMONWEALTH UNIVERSITY  
Department of Mathematics

I. Required Syllabus Information

**A. Course prefix and number, section number, and title**

CRN: 28775

Section Number: 004

Subject: Mathematics & Appl Mathematics

Course Number: 307

Title: MULTIVARIATE CALCULUS

**B. Semester term and credit hours**

Associated Term: Spring 2024

Credit Hours: 4

**C. Class meeting days/times/location**

Class meeting days/times: TTH 11:00 AM – 12:15 PM, F 11:00 AM – 11:50 AM

Location: Monroe Park Campus | Oliver Hall - Education | Room 2117; Room 2116A

**D. Instructor name, contact information, and office hours**

Instructor name: Allison H. Moore

Contact information: [mooreal4@vcu.edu](mailto:mooreal4@vcu.edu)

Office hours: T 12:30-1:30, F 9-10 Harris Hall 4149 (tentative)

**E. University course description (required to be verbatim from the University Bulletin)**

The calculus of vector-valued functions and of functions of more than one variable. Partial derivatives, multiple integrals, line integrals, surface integrals and curvilinear coordinates.

Lagrange multipliers; theorems of Green, Gauss and Stokes. Applications.

**F. Course prerequisites, if any**

MATH 201 with a minimum grade of C.

**G. Student learning outcomes**

The goal of this class is to help develop your skills and comprehension of multivariate calculus, and to build your mathematical background so you can become successful and competent in your chosen major. The course builds upon what you learned in MATH 200 and MATH 201: differentiation and integration of single variable functions. MATH 307 extends these notions to functions of more than one variable. We will cover partial derivatives, multiple integrals, line integrals, surface integrals and curvilinear coordinates. Following this we will study Lagrange multipliers and the theorems of Green, Gauss and Stokes. We will also touch on applications of multivariate calculus.

**H. Required texts and/or course materials**

You will need access to the following:

1. Access to the Canvas site. Important announcements, a copy of the syllabus, lecture notes, study guides, homework, some quizzes, and other assignments will be posted to Canvas. Check this website regularly and make sure you receive email announcements from Canvas.
2. Access to MyMathLab for web-based homework assignments. MyMathLab is integrated into Canvas, but requires an access code. MyMathLab gives you access to an electronic version of the textbook.
3. Access to the textbook: Briggs' *Calculus: Early Transcendentals*, Third Edition, Pearson. (There is no need to buy a hard copy if you can effectively use the online version supplied with MyMathLab.)

If you took either MATH 200 or MATH 201 at VCU, you probably already have access to the above materials. Otherwise you have three options for purchasing them. The simplest is to purchase MyMathLab/e-text access directly from MyMathLab. Alternatively, you can purchase the MyMathLab Student Access Kit from the VCU bookstore. The third option is to buy the hard copy of the textbook that comes with MyLabMath access from the VCU bookstore. This is the most expensive option. There is typically a 14-day free trial for MyMathLab. Be aware though, that you must purchase access to the online homework system through one of the above methods within that trial period.

### **I. Course schedule**

The schedule is [subject to change](#), as is appropriate for the progression of the class. Homework and quiz dates, in particular, may vary. Announcements regarding due dates will be made regularly via Canvas.

Homework: *Assigned online multiple times each week, check Canvas and MyLabMath.*

#### Major Assignment Schedule:

• Quiz 1	January 26	In class, in-person
• Quiz 2	February 9	In class, in-person
• Midterm 1	February 13	In class, in-person
• Quiz 3	March 1	In class, in-person
• Midterm 2	March 21	In class, in-person
• Quiz 4	April 5	In class, in-person
• Quiz 5	April 19	In class, in-person
• Midterm 3	April 25	In class, in-person
• Final Exam	May 9	8:00 AM – 10:50 AM

See section II-Q below for additional information about quiz, exam and homework policies.

### **J. Final exam date and time (if applicable)**

Exam to be held during May 9, 2024, 8:00 AM – 10:50 AM. (Scheduled by Registrar.)

### **K. Grading scale**

90-100 A, 80-89 B, 70-79 C, 60-69 D, below 60 F. Instructor reserves the right to curve.

## L. Grade categories and weights

Quizzes	20%	Averaged together	Lowest dropped
Homework	20%	Averaged Together	
Midterm 1	20%	Non-cumulative exam	
Midterm 2	20%	Non-cumulative exam	
Midterm 3	20%	Non-cumulative exam	
Final	20%	Cumulative exam	
Attendance and participation	Bonus		

## M. Link to the VCU Syllabus Policy Statements on the Provost's Website

Students should visit <http://go.vcu.edu/syllabus> and review all syllabus statement information. The full university syllabus statement includes information on safety, registration, the VCU Honor Code, student conduct, withdrawal and more.

## N. The following statement and link:

Use VCU Libraries to find and access library resources, spaces, technology and services that support and enhance all learning opportunities at the university. (<https://www.library.vcu.edu/>)

## II. Additional Syllabus Information

### O. Modality

The modality of this course is Face-to-Face Instruction. In-person attendance and participation is required. Homework (and possibly some quizzes) will be submitted online. All other assignments will held in person unless otherwise stated.

### P. Zoom and Canvas

In the event of illness or other campus disruption, we may need to conduct meetings virtually.

For online meetings, we will use the following Zoom link:

<https://vcu.zoom.us/j/83658968164>

Meeting ID: 836 5896 8164

Canvas and MyLabMath will be used to download and submit homework. Canvas may be used to conduct quizzes in the event that the university switches to online-mode or in other special circumstances.

### Q. Homework, Quiz and Exam Policies

Homework will be assigned every other week in small units and due on Sunday evenings. Late assignments will be accepted, but a small penalty may be applied. Homework assignments will be posted to MyLabMath in advance, and you may complete assignments early. Students in this class are encouraged to work with each other on homework.

Quizzes will typically be held on Fridays in class and will be timed. In the event of inclement weather or university closure, quizzes may need to be conducted through Canvas (in which case advance notice will be given). Most quizzes are closed notes due to time constraints, and you are not allowed to consult other people or internet-based resources.

Three midterm exams are scheduled along with a final exam. Exams will be timed, in-person exam. You are permitted to bring single, double-sided note page (a 'cheat sheet') to all exams, but is otherwise closed book. Final exam times are set by VCU here: <https://rar.vcu.edu/exams/index.html>.

#### **R. Academic Dishonesty (cheating):**

- You are expected to uphold the honor system at all times.
- If you are suspected of cheating, the matter will be sent to the honor council. This may result in a zero on the assignment, an F in the class, or suspension from the University.
- Examples of cheating include, but are not limited to, the following:
  - copying someone else's work or allowing another student to copy your work
  - copying answers to problems from websites like Stack Exchange
  - paying a tutor to solve a problem on your assignment or having someone else do your assignments for you
  - using sites like Chegg, Quora, Slader, Coursehero or social media to solicit for answers, regardless of whether it is free or paid
  - prompting any type of AI to answer your homework or exam problems
  - gaining knowledge from looking at another student's quiz/test
  - giving another student answers (or letting them copy) on a quiz/test
  - discussing a quiz/test with someone who has already taken it or asking for information on a quiz/test from someone who has already taken it

Working together with your classmates on homework assignments in a collaborative manner is *not considered cheating in this class*. I strongly encourage students in this class to work together on homework assignments.

#### **S. Our shared learning environment**

Everyone should know that I am grateful for your presence and appreciate your input in our in-person and online classes. You are welcome here, and our diverse backgrounds make us stronger together. I am dedicated to providing a welcoming and inclusive environment for all students, independent of your immigration status, country of origin and/or citizenship, race, ethnicity, religious affiliation, gender/sex, gender identity, sexual orientation, age, ability or disability, socioeconomic status, or perspective. Thank you for joining my class and bringing your unique experience and background to our intellectual community!

#### **T. Students with disabilities:**

VCU is committed to ensuring that all students maintain equal access to all aspects of the university, including educational experiences through the provision of reasonable accommodations and academic adjustments. In addition to being a requirement under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, this speaks directly to VCU's mission of inclusion, equity, and access. To receive accommodations or other

disability-related supports, students must register with the Office of Student Accessibility and Educational Opportunity on the Monroe Park Campus (828-2253) or the Division for Academic Success on the MCV campus (828-9782). Students and faculty can visit the [Student Accessibility and Educational Opportunity website](#) and/or the [Division for Academic Success website](#) for additional information. Once students have completed the registration process, they will be provided with a letter of accommodation. They should provide a copy to their instructor(s) and attempt to schedule a meeting to discuss the implementation of accommodations as early in the semester as possible.