

VIRGINIA COMMONWEALTH UNIVERSITY  
Department of Mathematics

I. Required Syllabus Information

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

CRN: 46127

Section Number: 001

Subject: Mathematics & Appl Mathematics

Course Number: 411

Title: EXCURSIONS IN GEOMETRY

**B. Semester term and credit hours**

Associated Term: Fall 2023

Credit Hours: 3

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

Class meeting days/times: MW 02:30 PM - 03:45 PM

Location: Monroe Park Campus | Harris Hall South | Room 3003

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

Instructor name: Allison H. Moore

Contact information: [moorea14@vcu.edu](mailto:moorea14@vcu.edu)

Office hours: W 1-2, F 9-10 Harris Hall 4149 (tentative)

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

An introduction to the fundamental concepts of geometry on manifolds. A study of charts and atlases, local and global properties, regular and rational functions and maps, and smoothness and tangent spaces. Other topics may include Riemannian metrics, projective varieties or integration on manifolds.

**F. Course prerequisites, if any**

MATH 300, MATH 307 and MATH 310, each with a minimum grade of C.

**G. Student learning outcomes**

As an introductory course in geometry, the primary outcome will be to develop a rigorous mathematical understanding of familiarity objects: surfaces. with point-set topology and basic geometric and algebraic topology. Students will be introduced to various methods of describing surfaces: with equations in three-dimensional space, parametric equations, and as factor spaces. Students will develop a familiarity with metric geometry, isometry groups and a variety of mathematical structures important in geometry: topological spaces, and combinatorial, smooth, Riemannian and complex structures. Students will gain experience writing clear and concise mathematical proofs and develop mathematical reading comprehension skills.

## H. Required texts and/or course materials

1. "Lectures on Surfaces: (Almost) Everything You Wanted to Know About Them" by Katok. ISBN 0821846795. REQUIRED.

## 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 every other week, check course schedule.*

### Major Assignment Schedule:

• Quiz 1 (easy)	August 30	In class, in-person
• Quiz 2	September 13	In class, in-person
• Quiz 3	September 27	In class, in-person
• Midterm	October 9	In class, in-person
• Quiz 4	October 25	In class, in-person
• Quiz 5	November 8	In class, in-person
• Quiz 6	November 29	In class, in-person
• Final Exam	December 12-14	To be individually scheduled

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 December 12—14. (Tentative.)

## 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: 40%

Homework: 15%

Midterm 20%

Final Exam: 20%

Attendance and participation: 5%

## 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. Quizzes and exams will be held in person unless otherwise stated. Homework may be submitted online.

### 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/81619111842>

Meeting ID: 816 1911 1842

Canvas 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 Policy

Homework will be assigned approximately every other week and due on Wednesdays, with a two-day grace period for late assignments. Homework assignments will be posted to Canvas in advance. You will submit your completed assignments to Canvas in PDF format. Students in this class are encouraged to work with each other on homework. Homework will be marked for completion or only partially graded because the purpose of homework is to prepare you for in-class quizzes, which comprise the highest percentage of your course graded.

All quizzes will be held during our 02:30 PM - 03:45 PM class meetings and will be timed. For the most part, quizzes will be in-person, although one or two of the quizzes may need to be conducted through Canvas (in which case advance notice will be given). Most quizzes are open book and open notes, but you are not allowed to consult other people or internet-based resources.

One midterm exam is scheduled along with a final exam. The midterm exam will be a timed, in-person exam. The final exam will tentatively be conducted as an 'at-home' exam together with an **individually scheduled oral exam component**, with rules and guidelines to be posted later in the semester.

Final exam times are set by VCU here: <https://rar.vcu.edu/exams/index.html>. Take-home and individually scheduled oral exam exams will be conducted generally within the final exam period.

### 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 homework or having someone else do your homework
- 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.