UCONN
UNIVERSITY OF CONNECTICUT

**MATH 2360Q**
Geometry
Mathematics

# Syllabus - Spring 2022

Excluding materials for purchase, syllabus information may be subject to change. The most up-to-date syllabus is located within the course in HuskyCT.

## Course and Instructor Information

**Course Title:** MATH 2360Q Geometry
**Credits:** 3
**Format:** In-person
**Prerequisites:** MATH 1126Q or MATH 1131Q or MATH 1151Q or MATH 2142Q.

**Professor/Instructor/Facilitator:** Dr. Véronique Bazier-Matte (feel free to call me Véronique)
**Pronouns:** she/her/hers
**Email:** veronique.bazier-matte@uconn.edu
**Office Hours/Availability:** Friday, 1:30-3:30 p.m. (can be changed with students' availabilities)
Besides that, you can write to me (veronique.bazier-matte@uconn.edu) to ask me a question or schedule a meeting. Please note that I usually don't answer emails in the evenings and weekends.

## Course Materials

**Required Material:** None
**Optional Material:** Rosen's 3rd edition of Discrete Mathematics and its Applications and Venema's 2nd edition of Foundations of Geometry (available at the UConn Bookstore for $44.99 to 126.65)

*Additional course readings and media are available within HuskyCT, through either an Internet link or Library Resources*

## Course Description

This course will follow an inquiry-based learning approch; that means that I will give you the definition of the concepts, but you will have to create examples, discover theorems and show them yourself during class. Of course, I will guide you through this process: you will have a series of questions to answer during each class to help you learn concepts, step by step. You can work alone or with a team and I will be available to answer questions.

Besides, at the end of this course, you will experiment with project learning: you will have to write lecture notes for high schoolers about hyperbolic geometry. Once again, I will guide you through this project to make sure that you master the material.

## Course Outline

Module 1: Logic, sets, and proofs
Module 2: Neutral geometry
Module 3: Euclidean geometry
Module 4: Hyperbolic geometry

## Calendar and Class Meeting Schedule

**Plan of the Semester:** (subject to change)
January 18: Introduction and propostional logic (online)
January 20: Equivalences of propositions (online)
January 25: Proof techniques (part 1) (online)
January 27: Proof techniques (part 2) (online)
February 1: Sets
February 3: **Quiz on Module 1** and axioms
February 8: Basic theorems in neutral geometry (part 1)
February 10: Basic theorems in neutral geometry (part 2)
February 15: Angles
February 17: Triangles
February 22: **Quiz on Module 2** and alternate interior angles
February 24: Quadrilaterals
March 1: Area
March 3: Circles
March 8: Revision
March 10: **Test on Module 2**
March 15: Break
March 17: Break
March 22: Basic theorems
March 24: Triangles
March 29: Trigonomtry
March 31: Areas and circles
April 5: Properties of isometries
April 7: Classification of Euclidean motions
April 12: Revision
April 14: **Test on Module 3**
April 19: (No class) Work on the final project
April 21: (No class) Work on the final project
April 26: (No class) Work on the final project
April 28: (No class) Work on the final project
May 2: **Due date for the final project**

**Due Dates, Quizzes and Tests:**
January 25: Homework 1
February 1: Homework 2
February 3: **Quiz on Module 1**
February 8: Homework 3
February 15: Homework 4
February 22: **Quiz on Module 2** and homework 5
March 1: Homework 6
March 8: Homework 7
March 10: **Test on Module 2**
March 29: Homework 8

April 5: Homework 9
April 12: Homework 10
April 14: **Test on Module 3**
May 2: **Due date for the final project**

**Other important dates:**
January 31: Last day to add or drop courses without additional signatures
March 13-19: Spring recess
April 11: Last day to withdraw from a course

## Course Requirements and Grading

**Summary of Course Grading:**

| Course Components | Weight option 1 | Weight option 2 | Weight option 3 |
|---|---|---|---|
| 10 weekly assignments | 50% | 25% | 15% |
| Quizzes | 10% | 20% | 15% |
| Tests | 20% | 40% | 30% |
| Final project | 20% | 15% | 40% |

Your final grade will be the highest given by each of these weightings. There will be no extra credit options.

**Weekly Homework**
Each homework should take you approximately two hours to complete. You can work on questions as a team, but you have to write your own solutions and submit your own copy. The goal of weekly assignments is to force you to keep pace with the class, to help you to determine what you understood correctly and what you need to do to improve, and therefore, to ask me questions if you need. You can work with your colleagues to think about the solutions, but you have to write your final answer yourself. Cite your colleagues if they gave you (part of) an answer. Make sure that you write the solution in your own words.

**Quizzes**
The goal of these quizzes is to prepare you for tests, and give you feedback on your progress in the class. All quizzes will be in person. You will not be authorized to use notes, textbooks, or any other resources.

**Tests**
The goal of these tests is to evaluate your understanding of the concepts taught, grade you, and give you feedback on your progress in the class. All tests will be in person. You will not be authorized to use notes, textbooks, or any other resources.

**Final project**
You will have to write lecture notes for high schoolers about hyperbolic geometry. These notes should include definitions of important terms, results in hyperbolic geometry (theorems) as well as examples or/and exercises with solutions.
Your notes have to be your own, that is written in your own words and organized following your own reasoning. If you use references, make sure that you don't directly copy any parts of it and cite it. Not following these instructions will be considered cheating and will result in 0 for the Final exam.

For additional information on undergraduate grading policies see here: https://registrar.uconn.edu/grades/

For additional information on graduate grading policies see here (note that effective Fall, 2020, the grade of A+ no longer exists) https://gradcatalog.uconn.edu/grad-school-info/academic-regulations/#Grades

**Grading Scale:**

| Grade | Letter Grade | GPA |
|---|---|---|
| 94-100 | A | 4.0 |
| 90-93 | A- | 3.7 |
| 87-89 | B+ | 3.3 |
| 83-86 | B | 3.0 |
| 80-82 | B- | 2.7 |
| 77-79 | C+ | 2.3 |
| 73-76 | C | 2.0 |
| 70-72 | C- | 1.7 |
| 67-69 | D+ | 1.3 |
| 63-66 | D | 1.0 |
| 60-62 | D- | 0.7 |
| <60 | F | 0.0 |

**Due Dates and Late Policy**

All course due dates are identified in the calendar (section due dates). Deadlines are based on Eastern Time unless otherwise specified. *The instructor reserves the right to change dates accordingly as the semester progresses. All changes will be communicated in an appropriate manner.*

Late Policy.

- Assignment: You will lose 5% of your grade for each day late for homework.
- Test: Test handed in late will not be graded: they will obtain a zero score.
- Final project: You will lose 10% of your grade for each day late for homework.

**Feedback and Grades**

I will make every effort to provide feedback and grades in one week. To keep track of your performance in the course, refer to My Grades in HuskyCT.

**Weekly Time Commitment**

You should expect to dedicate 4 to 6 hours a week to this course. This expectation is based on the various course activities, assignments, and assessments and the University of Connecticut's policy regarding credit hours. (More information related to hours per week per credit can be accessed at the Online Student website.).

## How to Succeed in this Course

All students can succeed in this course and we are here to help you along the way. Please do not hesitate to ask questions or attend office hours. All questions are important here. Success in this course program depends heavily on your personal health and well-being. Recognize that stress is an expected part of the college experience, and it often can be compounded by unexpected setbacks or life changes outside the classroom; I strongly encourage you to reframe challenges as an unavoidable pathway to success. At the end of each class, there are at least 30 minutes allocated for work by yourself and questions, so try to profit from it. Please feel free to reach out to me about any difficulty you may be

having that may impact your performance in your courses or campus life as soon as it occurs and before it becomes too overwhelming. In addition to your academic advisor, I strongly encourage you to contact the many other support services on campus that stand ready to assist you.

Resources that may help you:

- Dean of Students Office,
- Academic Achievement Center,
- Writing Center,
- Quantitative Learning Center,
- Title IX Office,
- Student Health and Wellness -- Mental Health

## Husky Study Groups

Are you interested in forming a study group with other students in the class? There is a study group application in Nexus that can help you get started. More information can be found in this video and here for more information.

## Resources for Students Experiencing Distress

The University of Connecticut is committed to supporting students in their mental health, their psychological and social well-being, and their connection to their academic experience and overall wellness. The university believes that academic, personal, and professional development can flourish only when each member of our community is assured equitable access to mental health services. The university aims to make access to mental health attainable while fostering a community reflecting equity and diversity and understands that good mental health may lead to personal and professional growth, greater self-awareness, increased social engagement, enhanced academic success, and campus and community involvement.

Students who feel they may benefit from speaking with a mental health professional can find support and resources through the **Student Health and Wellness-Mental Health** (SHaW-MH) office. Through SHaW-MH, students can make an appointment with a mental health professional and engage in confidential conversations or seek recommendations or referrals for any mental health or psychological concern.

Mental health services are included as part of the university's student health insurance plan and are also partially funded through university fees. If you do not have UConn's student health insurance plan, most major insurance plans are also accepted. Students can visit the **Student Health and Wellness-Mental Health located in Storrs on the main campus in the Arjona Building, 4th Floor,** or contact the office at **(860) 486-4705, or https://studenthealth.uconn.edu/** for services or questions**.**

## Accommodations for Illness or Extended Absences

Please stay home if you are feeling ill and please go home if you are in class and start to feel ill. If illness prevents you from attending class, it is your responsibility to notify your instructor as soon as possible. You do not need to disclose the nature of your illness, however, you will need to work with your instructor to determine how you will complete coursework during your absence.

If life circumstances are affecting your ability to focus on courses and your UConn experience, students can email the Dean of Students at dos@uconn.edu to request support. Regional campus students should email the Student Services staff at their home campus to request support and faculty notification.

COVID-19 Specific Information: People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. These symptoms may appear 2-14 days after exposure to the virus and can include:

- Fever,
- Cough,
- Shortness of breath or difficulty breathing
- Chills
- Repeated shaking with chills
- Muscle pain
- Headache
- Sore throat
- New loss of taste or smell

Additional information including what to do if you test positive or you are informed through contract tracing that you were in contact with someone who tested positive and answers to other important questions can be found here: https://studenthealth.uconn.edu/updates-events/coronavirus/

## Student Responsibilities and Resources

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important standards, policies and resources, which include:

- The Student Code
    - Academic Integrity
    - Resources on Avoiding Cheating and Plagiarism
- Copyrighted Materials
- Credit Hours and Workload
- Netiquette and Communication
- Adding or Dropping a Course
- Academic Calendar
- Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
- Sexual Assault Reporting Policy

## Students with Disabilities

The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or http://csd.uconn.edu/.

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government." (Retrieved March 24, 2013, from Blackboard's website)

## Software/Technical Requirements (with Accessibility and Privacy Information)

The software/technical requirements for this course include:

- HuskyCT/Blackboard (HuskyCT/ Blackboard Accessibility Statement, HuskyCT/ Blackboard Privacy Policy)
- Adobe Acrobat Reader (Adobe Reader Accessibility Statement, Adobe Reader Privacy Policy)
- Webex
- Google Drive on mobile devices or any applications or devices able to scan documents.
- Dedicated access to high-speed internet with a minimum speed of 1.5 Mbps (4 Mbps or higher is recommended).
- WebCam (only for the final exam)

For information on managing your privacy at the University of Connecticut, visit the University's Privacy page.

**NOTE:** This course has NOT been designed for use with mobile devices.

## Help

Technical and Academic Help provides a guide to technical and academic assistance.

This course uses the learning management platform, HuskyCT. If you have difficulty accessing HuskyCT, you have access to the in-person/live person support options available during regular business hours through the Help Center. You also have 24x7 Course Support including access to live chat, phone, and support documents.

## Student Technology Training

Student technology training is now available in a new HuskyCT short course created by students for students. It will prepare you to use the IT systems and services that you will use throughout your time at UConn, whether learning online or on-campus. It is available at https://lms.uconn.edu/ultra/courses/_80016_1/cl/outline .

## Minimum Technical Skills

To be successful in this course, you will need the following technical skills:

- Use electronic mail with attachments.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.
- Use HuskyCT
- Use Webex
- Manage webcam and microphone for online meetings
- Scan and upload files

University students are expected to demonstrate competency in Computer Technology. Explore the Computer Technology Competencies page for more information.

## Evaluation of Course Experience

Students will be given an opportunity to provide feedback on their course experience and instruction using the University's standard procedures, which are administered by the Office of Institutional Research and Effectiveness (OIRE).

The University of Connecticut is dedicated to supporting and enhancing teaching effectiveness and student learning using a variety of methods. The Student Evaluation of Teaching (SET) is just one tool used to help faculty enhance their teaching. The SET is used for both formative (self-improvement) and summative (evaluation) purposes.

Additional informal formative surveys and other feedback instruments may be administered within the course.