



## Course Information

Course Number:	MATH 467
Course Title:	Modern Geometry (writing-intensive)
Section:	900 Fall 2020
Time:	MWF 1:35-2:25
Location:	ZOOM 992 6907 3821
Credit Hours:	3
Class Web Page:	<a href="http://calclab.math.tamu.edu/~fulling/m467/f20/">calclab.math.tamu.edu/~fulling/m467/f20/</a>

## Instructor Details

Instructor:	S. A. Fulling
Office:	ZOOM 957 9632 7828
E-Mail:	(979) 220-9606
Office Hours:	T 2:00-3:00, R 3:00-4:00, F 11:00-12:00 (subject to change)

## Course Description

*Euclidean geometry is developed from a modern viewpoint, following the axioms proposed by Hilbert, with special attention to the question of which conclusions are independent of the parallel postulate. Then we examine a particular non-Euclidean geometry, the hyperbolic one. The historical and philosophical context of these developments is given considerable attention.*

## Course Prerequisites

*Some experience with reading and writing proofs: linear algebra (M. 304, 309, 311, or 323) or M. 220.*

## Special Course Designation

This is a W course (writing-intensive). The major papers, homework essay questions, and midterm essay question will be revised and regraded. To get W credit for the course, you must have a passing grade on the writing assignments (the 3 items just mentioned plus the final exam essay).

## Course Objectives

1. *To acquaint students with non-Euclidean geometry, a development of the utmost historical and philosophical significance in the development of mathematics.*
2. *To help develop facility with logical thinking. (This includes, in particular, the distinction between reasoning from abstract axioms containing undefined terms and reasoning from facts about things we already know something about.)*
3. *To prepare future teachers of high-school geometry to approach Euclidean geometry from a well-informed, modern perspective. (Note: NOT “to teach how to teach high-school geometry”.)*
4. *To develop facility in the writing of mathematical expositions and proofs, with appropriate attention to clarity, accuracy, and form.*

## Textbook

M. J. Greenberg, *Euclidean and Non-Euclidean Geometries: Development and History*, 4<sup>th</sup> ed., Freeman, 2008. The course covers the first 7 or 8 chapters of the book.

## Grading Policy

Midterm test	80
Midterm test essay question	20
Final exam	125
Final exam essay question	25
Homework	80
Homework essay questions	6 x 10 = 60
Papers	50 x 2 = 100
Class participation	60
Total	550

The “curve” will be at least as generous as the “standard” scale [i.e., 90% (= 495 points) will guarantee an “A”, etc.]. The part of a test devoted to essay-type questions may be larger than the minimum indicated above.

*Class participation most often consists of working on problems in small groups (Zoom break rooms) and reporting results to the class, during class and via eCampus discussions. Attendance (reported by Zoom) will directly influence the class participation score slightly.*

*Papers: Choose a topic from the “Major Exercises” and “Projects” lists in the textbook, or propose a topic of your own. The second one should come from fairly late in the book. (More detailed guidelines will be provided later.) Write carefully and formally (“English counts!”).*

## Late Work Policy

Acceptance of late homework is at the discretion of the person doing the grading (the professor for W components and tests, a grad student grader for regular homework). Normally it will be graded if it is feasible to do so. Egregiously late work (e.g., 5 assignments submitted a week before the final exam) will not be graded except in unusual extenuating circumstances.

## Course Schedule

*Please see the class web page for a detailed schedule of topics and for the homework and class-discussion assignments. Homework will normally be due on Fridays at 1:00 p.m. (submitted through eCampus), with new assignments and W revisions in alternate weeks.*



You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at [aggiehonor.tamu.edu](http://aggiehonor.tamu.edu).

*Plagiarism: Finding information in books or on the Web is praiseworthy; lying (even by silence) about where it came from is academic dishonesty. Whenever you copy from, or “find the answer in”, some other source, give a footnote or reference. Otherwise, you are certifying that it is your own work.*

*Joint work: On a homework assignment (not a take-home test!) discussion with other students is permitted, even encouraged. However, the grader will not give homework credit for “work” that is parasitical (and your test scores will suffer, too). To forestall problems, please follow these policies: (1) When two or more students work together on an assignment, they should all indicate so on their papers. (2) If the cooperation is of the divide-and-conquer variety, you are certifying that YOU HAVE STUDIED AND UNDERSTAND every problem solution on your paper. Mindless copying is dishonest and academically worthless.*

*Copyright: Course materials (on paper or the Web) should be assumed to be copyrighted by the instructor who wrote them or by the University.*

*Calculators in exams: Calculators are to be used only to perform elementary operations such as addition, multiplication, and evaluation of simple functions such as square roots, sines, and logarithms. Advanced facilities such as storing formulas in memory, inverting matrices, and graphing functions on the calculator display are prohibited. Violations of this rule may lead to total prohibition of calculators in exam (probably at the insistence of other students).*

## Americans with Disabilities Act (ADA) Policy

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit [disability.tamu.edu](http://disability.tamu.edu). Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

## Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see [University Rule 08.01.01.M1](#)):

- The incident is reasonably believed to be discrimination or harassment.

- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, you will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University’s goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with [Counseling and Psychological Services](#) (CAPS).

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University’s [Title IX webpage](#).

**NOTE:** Faculty associated with the main campus in College Station should use this Title IX and Statement on Limits of Liability. Faculty not on the main campus should use the appropriate language and location at their site.

## Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student’s academic success and overall wellbeing. Students are encouraged to engage in proper self-care by utilizing the resources and services available from Counseling & Psychological Services (CAPS). Students who need someone to talk to can call the TAMU Helpline (979-845-2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends. 24-hour emergency help is also available through the National Suicide Prevention Hotline (800-273-8255) or at [suicidepreventionlifeline.org](https://suicidepreventionlifeline.org).

## COVID-19 Temporary Amendment to Minimum Syllabus Requirements

The Faculty Senate temporarily added the following statements to the minimum syllabus requirements in Fall 2020 as part of the university’s COVID-19 response.

### *Campus Safety Measures*

To promote public safety and protect students, faculty, and staff during the coronavirus pandemic, Texas A&M University has adopted policies and practices for the Fall 2020 academic term to limit virus transmission. Students must observe the following practices while participating in face-to-face courses and course-related activities (office hours, help sessions, transitioning to and between classes, study spaces, academic services, etc.):

- Self-monitoring—Students should follow CDC recommendations for self-monitoring. **Students who have a fever or exhibit symptoms of COVID-19 should participate in class remotely and should not participate in face-to-face instruction.**

- Face Coverings—[Face coverings](#) (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain. Description of face coverings and additional guidance are provided in the [Face Covering policy](#) and [Frequently Asked Questions \(FAQ\)](#) available on the [Provost website](#).
- Physical Distancing—Physical distancing must be maintained between students, instructors, and others in course and course-related activities.
- Classroom Ingress/Egress—Students must follow marked pathways for entering and exiting classrooms and other teaching spaces. Leave classrooms promptly after course activities have concluded. Do not congregate in hallways and maintain 6-foot physical distancing when waiting to enter classrooms and other instructional spaces.
- To attend a face-to-face class, students must wear a face covering (or a face shield if they have an exemption letter). If a student refuses to wear a face covering, the instructor should ask the student to leave and join the class remotely. If the student does not leave the class, the faculty member should report that student to the [Student Conduct office](#) for sanctions. Additionally, the faculty member may choose to teach that day's class remotely for all students.

### *Personal Illness and Quarantine*

Students required to quarantine must participate in courses and course-related activities remotely and **must not attend face-to-face course activities**. Students should notify their instructors of the quarantine requirement. Students under quarantine are expected to participate in courses and complete graded work unless they have symptoms that are too severe to participate in course activities.

Students experiencing personal injury or illness that is too severe for the student to attend class qualify for an excused absence (See [Student Rule 7, Section 7.2.2.](#)) To receive an excused absence, students must comply with the documentation and notification guidelines outlined in Student Rule 7. While Student Rule 7, Section 7.3.2.1, indicates a medical confirmation note from the student's medical provider is preferred, **for Fall 2020 only, students may use the Explanatory Statement for Absence from Class form in lieu of a medical confirmation. Students must submit the Explanatory Statement for Absence from Class within two business days after the last date of absence.**

### *Operational Details for Fall 2020 Courses*

For additional information, please review the [FAQ](#) on Fall 2020 courses at Texas A&M University.