

GEOMETRIC SYSTEMS

MATH 3365.001 | SPRING 2024

Instructor: Dr. Deborah Koslover

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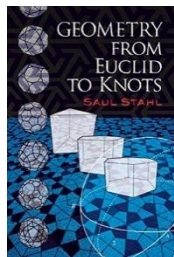
Meeting Time: MWF 11:15 AM – 12:10 PM

Office Hours: TTh 10 AM - 12 PM or by appointment.

Course Description

We will be studying Euclidean geometry very much in the same fashion as it has been studied for 2300 years. For most of that time, every educated person in the western world studied Euclidean geometry. The number of printed editions of the geometry text, Euclid's Elements, is only exceeded by editions of the Bible. Why was this work so influential? Why was this topic studied rather than the myriads of other possible topics? We will explore these topics and more modern fields of geometry, non-Euclidean geometry. This course has a prerequisite, MATH 3425 Foundations of Mathematics.

Textbook



Geometry From Euclid to Knots, by Saul Stahl, Dover Books, 2010, ISBN-10:0-486-47459-3 ISBN-13: 978-0-486-47459-5

Website



You will be using Canvas. Go to www.uttyler.edu/canvas to log into Canvas using your regular patriots account. If you have enrolled in the course, you should have access to the website. You will find important documents, grades, lecture notes, and announcements on Canvas.

Attendance is mandatory and attendance records will be kept. Notify Dr. Koslover in advance if you must miss a class, be late for a class or leave early. (Official University Policy: Class attendance is the responsibility of the student. When a student has a legitimate absence, the instructor may permit the student to complete missed assignments. In many cases class participation is a significant measure of performance, and non-attendance may adversely affect a student's grade. When a student's absences become excessive, the instructor may recommend that the student initiate a withdrawal.)

Learning Outcomes

At the conclusion of this course, you will be able to

1. Write complete, correct and coherent proofs (critical thinking and communication).
2. Understand and use abstract mathematical concepts (critical thinking)
3. Discuss the differences between Euclidean, spherical, hyperbolic and other non-Euclidean geometries
4. Discuss the axiomatic approach to mathematics
5. Discuss the historical significance of Euclidean geometry

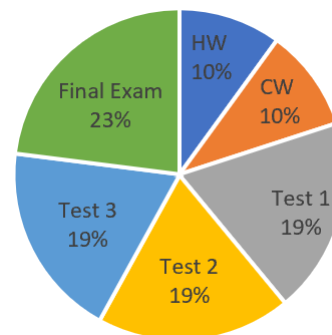
Course Evaluation

At the end of the semester, you will find your final grade on my.uttyler.edu. It will also be posted on Canvas.

A final course grade of

- 90% is guaranteed to be at least an A
- 80% is guaranteed to be at least a B
- 70% is guaranteed to be at least a C
- 60% is guaranteed to be at least a D.

All grades below 60% will be F.



The Plan



Homework (10%, 10%) will be assigned daily. Assignments will appear on Canvas. It will be due by 5 AM on Wednesdays (Tuesday night) of the following week. It should be submitted on Canvas as a pdf file.

Every Friday except on test days, we will have homework presentations. On test weeks, presentations will be on Wednesday. You will be asked to get up and present your solutions. If you have not done a problem, you may be asked to get up and take a stab at it. If you started a problem, but couldn't finish it, you will be asked to present what you did, and then get suggestions from the rest of the class on how finish.

Friday's audience will be expected to politely comment on the presentations and will receive classwork credit for good comments. Commenting must be about the mathematics, not trivialities like the person's handwriting. Comments about how you did the problem differently will not usually get much credit, unless your method is markedly different. If the presenter gets stuck or makes an error, much credit will be given for giving the presenter helpful hints, but not doing the problem for them.

Other classwork will occasionally, be done and will be collected for credit.

TESTS There will be three tests (19% each) and a final exam (23%). These exams will test your knowledge of the material taught in the class and practiced on the homework. The final exam will be comprehensive, but will emphasize material in the final third of the course.

The dates and times of these exams are as follows:

- **Test 1:** Friday, February 16, 2023
- **Test 2:** Friday, March 29, 2023
- **Test 3:** Friday, April 19, 2023



FINAL EXAM

Final Exam: (Tentative) Monday, April 29, 10:15 – 12:15 PM

Make-ups

Make-ups for **documented** absences that are **required** as part of a UT Tyler obligation (e.g. athletes participating in an event, participating in a debate contest, etc.) or for religious observation will be granted. For all make-ups of this type, prior notification of at least one week and documentation are required. Other make-ups are granted only in extreme cases such as hospitalization and at the sole discretion of the instructor.



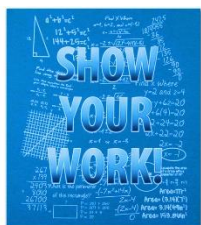
Make-ups will be allowed for the following excused absences.

- 1) Illnesses, with a doctor's note, no exceptions.
- 2) Your child's illness, with a doctor's note.
- 3) Court appearances, including citizenship court, with documentation
- 4) Weddings, funerals or military advancement with documentation **and** a photograph showing that you attended the event.

Doctor's notes must be dated either before you miss the class or within 2 days after you missed the class, unless you or your child are hospitalized. In case of hospitalization, bring evidence of hospitalization.

Make-ups for test must be taken within 3 days after returning to class except for lengthy illnesses or hospitalizations.

Other Details



Calculator Policy: Non-graphing calculators may be used on tests. You may not use your phone. However, all work must be shown.

Cell phones, IPODs and other electronic devices: Please set your cell phones and pagers to silent mode. If you are expecting an emergency call, please notify the professor in advance, sit near the door, and answer the phone outside. You will not be allowed to wear an IPOD or other electronic devices during an exam. During tests, cell phones must be turned off and placed in sight on your desk.

Calendar			FEBRUARY			MARCH			APRIL		
			MON	WED	FRI	MON	WED	FRI	MON	WED	FRI
MON	WED	FRI			2			1	1	3	5
15	17	19			*			*		*	*
MLK Day	First Day		5	7	9	4	6	8	8	10	12
22	24	26		*	*		*	*	Eclipse Day	*	*
	*	*	12	14	16	11	13	15	15	17	19
29	31			**	Test 1	Spring Break				**	Test 3
Census Day	*		19	21	23	18	20	22	22	24	26
*HW due on Wed				*	*		*	*		*	*
*Presentations on Fri or Wed			26	28		25	27	29	29	30	
Final 10:15 AM – 12:15 PM				*		Drop Day	**	Test 2	Final Exam		