Classroom: LIT235

Meeting Times: MWF5

Instructor: Dr. Konstantina Christododoulopoulou

Office Phone: (352) 294-2315

Office Location: LIT 365

Email: `kchristod@ufl.edu`

Office Hours: M7, T6, W4, and by appointment.

Open Door Policy: You are welcome to drop by to discuss any aspect of the course, anytime.

All course materials will be posted in e-Learning Canvas

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Text: *Foundations of Geometry*, by Gerard Venema, 2nd edition. We will cover most of Chapters 1-4, 6, plus additional material, time permitting.

Course objectives: This course provides an axiomatic treatment of topics in Euclidean and non-Euclidean geometry and is particularly useful for prospective secondary-school mathematics teachers. In addition, this course will enrich the knowledge of all mathematics majors and ease their transition to more advanced mathematics courses. We will build the results of classical geometry from its basic axioms. We will be asking why various theorems in geometry are true, and we will pay particular attention to the use of mathematical reasoning to help us understand the underlying theory.

It is essential that you work on the material outside the classroom. Carefully read the textbook before coming to class and use pencil and paper to work through the material.

Reading: A tentative course calendar (subject to revision during the semester) is available at the end of the syllabus and also in Canvas. There you can find which sections will be covered during each lecture. *It is expected that you have read the relevant textbook sections before each lecture, so that you will be able to better grasp the material presented. In addition, supplementary material not found in the textbook may be presented during lecture to complement reading assignments.*

Office Hours: I encourage you to take advantage of my office hours and my **open door** policy. You are welcome to drop by my office to talk about the course anytime I am in my office and my door is open. In addition, I will hold regular office hours for your convenience. If you cannot make my posted hours I will also be happy to set a meeting time that is convenient for the both of us.

Course Web Page: I will update Canvas regularly with class announcements, homework assignments, and additional materials. All grades are posted in the Canvas Gradebook. You are responsible for verifying that those grades are accurate. **You have one week after a score has been posted to contact me to resolve any grade concerns. We will not consider any grading disputes nor make any grade adjustments at the end of the semester.**

Please review the UF Resources and Policies for available technical assistance, resources and UF policies.

Grading:

Homework	20%
Project	8%
Two Semester Exams	46% (24% each)
Final Exam	24%

The following grading scale applies.

A	$\geq 90\%$	C	$\geq 70\%$
A$-$	$\geq 87\%$	C$-$	$\geq 67\%$
B+	$\geq 84\%$	D+	$\geq 64\%$
B	$\geq 80\%$	D	$\geq 60\%$
B$-$	$\geq 77\%$	D$-$	$\geq 56\%$
C+	$\geq 74\%$	E	$< 56\%$

The current UF grading policies for assigning grade points is available here: `https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/`

Grades will not be rounded and extra assignments for individual students to improve a grade are NOT possible. We will not review disputed points at the end of the semester. All grade concerns must be settled <u>within one week</u> of the submission.

Homework: Homework assignments will consist of problems to be submitted for grading and a list of recommended problems. I expect all homework solutions to be written in full sentences, without logical symbols (such as $\forall, \Leftrightarrow, \exists$ etc.,) and to be grammatically correct. Each homework solution will be graded on the following scale:

5	Correct mathematical solution and very well written.
4	Small errors such as incomplete sentences, abbreviating words with logical symbols, imprecise definitions, or overlooking trivial cases.
3	Contains an outline of a correct solution and several steps toward this solution, but the writing is unclear or there are gaps in the solution.
2	Some original steps toward a correct solution but with significant mathematical errors.
1	No original steps toward a correct solution.

You may work with your peers to prepare problems but you must write up solutions individually. Do not turn in what are essentially Xerox copies of each other's homework.

Submitted work expectations: Submitted assignments should be neat, organized, and clearly presented. Submissions not meeting these standards may have the scores reduced or may be returned ungraded.

Using the Web: Please refrain from searching for homework solutions on the internet or using someone's notes from a previous semester. Your job in this course is to write proofs in geometry, not learn how to

do a web search. Also, you will not have access to the internet on tests. It is very obvious to me when you have a solution that you did not write yourself, and this will not help you succeed in the course. If you are having trouble with a problem ask your instructor or a classmate for help.

Exams: Two semester exams and a final exam are scheduled for this course. The mid-term exams are scheduled for February 11 and March 25, and and the final exam is scheduled for April 28. **The exams cannot be rescheduled unless you meet the University requirements; see** `https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx` Absolutely no collaboration on exams is allowed.

Make-up policies: Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:`catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/`

Make-up assignments will be allowed in the following cases:

- In case of illness, upon receipt of a doctor's note or equivalent, or by following the procedure outlined here: `https://care.dso.ufl.edu/instructor-notifications`.

- In case of religious holidays, by informing me via e-mail ahead of time.

- In case of military duty, jury duty, participation in academic conferences, or participation in official university or UAA events, by providing appropriate evidence ahead of time.

- In case of family emergencies or other extenuating circumstances, by following the procedure outlined here: `https://care.dso.ufl.edu/instructor-notifications`.

In all other cases, or if you are unsure, please e-mail me as soon as feasible. Absences are generally not excused for non-emergency travel and personal schedule conflicts. Students are still responsible for turning assignments in on time unless an extension has been requested via e-mail and approved by the instructor prior to the deadline. In case of true documented emergencies, the instructor may waive this requirement.

Technical difficulties are not generally an excuse for missing an assessment; students should have contingency plans in case any such issues arise.

Project: The goal of the project will be for students to explore models of the hyperbolic plane. More details will be provided in class and in Canvas.

One-week policy: All grades are posted in the Canvas Gradebook. You are responsible for verifying all grades are accurate. You have one week after a score is available to discuss any grade concerns with me. There is no grades dispute after one week.

Incomplete: A student who has completed a major portion of the course with a passing grade but is unable to complete the final exam or other course requirements due to illness or emergency may be granted an incomplete, indicated by a grade of "I". This allows the student to complete the course within the first six weeks of the following semester. You must contact me before finals week to sign an incomplete grade contract (`http://clas.ufl.edu/forms/incomplete-grade-contract.pdf`), and must provide documentation of the extenuating circumstances preventing you from taking the final exam. The grade of "I" is never used to avoid an undesirable grade, and does not allow a student to redo work already graded or to retake the course. See the official policy at `http://www.math.ufl.edu/department/incomplete-grades/`.

Students with Disabilities: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. Click here to get started with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Academic Honesty: UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code." On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://sccr.dso.ufl.edu/process/student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

Online Course Evaluation: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at `https://gatorevals.aa.ufl.edu/students/`. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or `https://viaufl.bluera.com/ufl/`. Summaries of course evaluation results are available to students `https://atgatorevals.aa.ufl.edu/public-results/`.

In-Class Recording: Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor. An "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session. Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Diversity Statement: I am committed to diversity and inclusion of all students in this course. I acknowledge, respect, and value the diverse nature, background and perspective of students and believe that it furthers academic achievements It is my intent to present materials and activities that are respectful of diversity: race, color, creed, gender, gender identity, sexual orientation, age, religious status, national origin, ethnicity, disability, socioeconomic status, and any other distinguishing qualities.

Campus Resources:

Health and Wellness

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit https://umatter.ufl.edu/ to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit https://counseling.ufl.edu/ or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit https://shcc.ufl.edu/.

University Police Department: Visit https://police.ufl.edu/or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center|: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; https://ufhealth.org/emergency-room-trauma-center.

GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website: https://gatorwell.ufsa.ufl.edu/ or call 352-273-4450.

Academic Resources

E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

Library Support: Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

Disclaimer: *This syllabus represents my current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected. You will be notified if any changes are made.*

SPRING 2022 –MTG3212 Calendar

Exam 1-Friday, February 11 in class
Exam 2-Friday, March 25 in class
Final Exam-Friday, April 28, 10AM-12PM in LIT235

Monday	Wednesday	Friday
	Jan 5 Euclid's Elements (Ch1)	7 Axiomatic Systems & Incidence Geometry (2.1-2.2)
10 Parallel Postulates/Logic and Proof (2.3-2.5)	**12** Incidence Geometry (2.6)	**14** The Existence & Incidence Postulates (3.1)
17 MLK Holiday/No class	**19** The Ruler Postulate (3.2)	**21** The Ruler Postulate (3.2)
24 Plane Separation (3.3)	**26** The Protractor Postulate(3.4)	**28** The Protractor Postulate (3.4)
31 Crossbar & Linear Pair Theorems (3.5)	**Feb 2** SAS (3.6)	**4** The Exterior Angle Theorem (4.1)
7 Triangle Congruence(4.2)	**9** Review/Catch-up	**11** Exam 1
14 Triangle Inequalities (4.3)	**16** The AIA Theorem (4.4)	**18** The Saccheri-Legendre Theorem (4.5)
21 Quadrilaterals (4.6)	**23** Parallel Postulates revisited (4.7)	**25** Parallel Postulates revisited (4.7)/Catch-up
28 Rectangles & Defect (4.8)	**Mar 2** The Universal Hyperbolic Theorem (4.9)	**4** Some Basic Theorems of Hyperbolic Geometry (6.1)
7 Have a	**9 Great**	**11 Spring Break**
14 Some Basic Theorems of Hyperbolic Geometry (6.1)	**16** Common Perpendiculars(6.2)	**18** Common Perpendiculars (6.2)
21 Overview of Parallelism in Hyperbolic Geometry	**23** Review/Overview of Parallelism in Hyperbolic Geometry	**25** Exam 2
28 The Poincaré Disc Model	**30** The Poincaré Disc Model	**Apr 1** Polygonal Models
4 Polygonal Models/ The Geometry of Space	**6** Properties of Isometries (10.1)	**8** Rotations, Translations and Glide Reflections (10.2)
Apr 11 Classification of Euclidean and Hyperbolic Motions (10.3-10.4) (as time permits)	**13** A Transformational Approach to the Foundations (10.5) (as time permits)	**15** Catch-up/Presentations
18 Catchup/ Presentations	**20** Catch-up/ Presentations/Review	**23** Reading Day No Class