

**MTG 3212 -- College Geometry -- Fall 2024 -- TuTh 12:00-1:15pm GC 273A**

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**Canvas will be used. E-mail and canvas are the preferred ways of communication outside class.**

**Office Hours (in DM 432B) :** W 11:00am-1:00pm, Th 1:30-2:30pm. Other times by appointment only.

**Pre-requisite:** Officially Calculus II (or its equivalent), but some exposure to proofs (e.g. from Discrete Math, high-school geometry) may be more important. Having had MAA3200 is helpful, but it is not necessary. In fact, one could justifiably argue that geometry is the best area of math to first be exposed to proofs.

**Textbook:** *Foundations of Geometry*, 3<sup>rd</sup> edition, by Richard Venema; Publisher: Pearson, 2006; ISBN-10: 0-13-684526-6, ISBN-13: 978-0-13-684526-3.

We will cover Chapters 2-6 of the textbook, with only light coverage of Chapter 2. This will include an axiomatic development of neutral geometry in the plane, and key results in Euclidean and Hyperbolic geometry. You can see in the suggested homework exercises the tentative list of sections from the book that I plan to cover (some changes may occur).

**Method of Evaluation:** Your final grade in the course is based on:

1. Class participation – attendance, class answers, problem presentations      -- 10%;
2. Turn-in homework – best 4 scores out of 5      -- 15%;
3. Mini-project with software usage (e.g. Geogebra) and presentation      -- 10%;
4. Two midterm exams  
    Exam 1 – Thursday, Oct. 03;      -- 20%;
- Exam 2 – Thursday, Nov. 14;      -- 20%;
5. Final Exam – comprehensive exam -- date TBA .      -- 25%.

**Grade-scale:** The following percentages will guarantee the associated grade:

> 90% A ;    88-90% A- ;    85-88% B+ ;    80-85% B ;    78-80% B- ;    75-78% C+ ;    65-75% C ;  
55-65% D ;    50-55% D- ;    <50% F

Your semester grade will be based on your average score - not on improvement, effort, etc. Incompletes will not be given, except in special documented cases. **NO MAKEUP EXAMS WILL BE GIVEN.** If you have a documented medical or professional excuse for missing a quiz/exam, that percentage of your grade may be made up on the final.

**Attendance:** It counts to your grade via class participation, so it is important. However, if you feel sick, and suspect you may be contagious, please wear a mask or do not come to class that day. In such a case, please write me a note about your situation.

**Deadlines:** for add/drop with refund – Sep. 03; for DR/WI with no refund – Nov. 04.

**Help for Students:** There is a solution manual available to help the students with the numerous proofs from the exercise sections of the book.

**Expectations:** You are expected to read, understand and be able to reproduce the theoretical material presented in class and in the book. You are expected to work on the suggested homework exercises and on the problems that I'll give in class. **Almost all questions on exams will come from the suggested exercises and the class problems.**

For the hand-in homework assignments, it is ok if you collaborate with colleagues (and I encourage this), but each of you should write his/her OWN homework. No plagiarism! Also, please acknowledge collaborations or outside help (including from internet sources). Same rules for the mini-projects.

### **Academic Misconduct Statement:**

Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.

Academic Misconduct includes:

**Cheating** – The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, field service reports, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not.

**Plagiarism** – The use and appropriation of another's work without any indication of the source and the representation of such work as the student's own. Any student who fails to give credit for ideas, expressions or materials taken from another source, including internet sources, is responsible for plagiarism.

To learn more about the academic integrity policies and procedures visit  
<https://dasa.fiu.edu/all-departments/student-conduct-and-academic-integrity/index.html>

**The instructor reserves the right to make any changes he considers academically advisable. These eventual changes would be announced in class, via e-mail or Canvas and you are responsible to be aware of them.**

### **Tentative List of Suggested Assignments:**

Section 2.4: Exercises 2.4.1-2.4.3, 2.4.11-2.4.14, 2.4.16.

Section 3.2: Exercises 3.2.1-3.2.28.

Section 3.3: Exercises 3.3.1-3.3.7.

Section 3.4: Exercises 3.4.1, 3.4.2, 3.5.1-3.5.7.

Section 4.2: Exercises 4.2.1-4.2.6, 4.3.1-4.3.10.

Section 4.4: Exercises 4.4.1-4.4.3, 4.5.1, 4.5.2.

Section 4.6: Exercises 4.6.1-4.6.13.

Section 4.7: Exercises 4.7.1-4.7.6, 4.8.1-4.8.11.

Section 5.1: Exercises 5.1.1-5.1.10.

Section 5.3: Exercises 5.3.1-5.3.5.

Section 5.4: Exercises 5.4.1-5.4.5, 5.5.1-5.5.7.

Section 5.6: Exercises 5.6.1-5.6.18.

Section 6.1: Exercises 6.1.1-6.1.6,

Section 6.2: Exercises 6.2.1-6.2.3.

Section 6.4: Exercises 6.4.1, 6.4.2.

Section 6.5: Exercises 6.5.1-6.5.4,

Section 6.6: Exercises 6.6.1, 6.6.2.

Section 6.7: Exercises 6.7.1-6.7.7

Section 6.8: Exercises 6.8.1-6.8.3.