MATH 2360Q-001: GEOMETRY
FALL 2014

Class Meetings: Tu Th 9:30-10:45 in MSB 311
Instructor: Myron Minn-Thu-Aye
Office: MSB 424
Office Hours: Tu 11-12 & 2-3, W 11-12 & 1:15-3:15, Th 11-12 & 2-3
E-mail: myron.minn-thu-aye@uconn.edu
Webpage: www.math.uconn.edu/~myron/math2360f14/
Textbook: Foundations of Geometry by Venema

Course Description:
Geometry has a rich and fascinating history. While we are all familiar with geometry in some form or another, the goal of this course is to broaden our perspective on the subject and deepen our understanding of it. We will be asking why various theorems in geometry are true and we will pay particular attention to using mathematical reasoning to help us understand the underlying theory. We will also explore the idea of different kinds of spaces possessing different kinds of geometric properties that might seem unintuitive to us. In particular, we will discuss hyperbolic geometry towards the end of the semester.

Homework:
Homework exercises will be assigned fairly regularly and assignments will be collected every two weeks, beginning with the second Thursday of the semester. Rather than involving lots of calculations, our work will be focused on exploring the theoretical foundations of geometry. This means homework will involve writing clear and well-argued proofs of theorems and exploring geometry in great depth.

Exams:
Over the course of the semester, there will be two midterm exams and a final exam. These will all be take-home exams. The dates for our exams are:
Exam 1: Thursday, October 2nd to Tuesday, October 7th
Exam 2: Thursday, November 13th to Tuesday, November 18th
Final Exam: Thursday, December 4th to Sunday, December 14th

Grading:
Grades will be determined roughly as follows:
Homework: 25%
Best Two Out Of Three Exam Scores: 50%
Final Exam: 25%

Some words of advice:
This course involves a lot of abstract ideas as well as the use of rigorous logic and reasoning. You will be expected to provide justification and explanation for all of your work, which will involve quite a bit of writing. This may seem somewhat unusual to you at first, but make sure you keep practicing these skills and ask me if you're ever unsure of anything. An important part of this course will be asking lots of questions and talking about the material with me and with your classmates. Make use of my office hours, and feel free to contact me by e-mail as well.

Academic Honesty:
Collaboration on homework is allowed and encouraged but you must write up your solutions on your own. During exams, no communication between students is allowed. Any violation of this policy only undermines the goals of our class and serves as a detriment to students' learning.

Schedule:
Read Examples 2.2.2, 2.2.5, and 2.2.5 before class on Tuesday 9/2
Read the following sub-headings in Section 2.5: Statements, Conditional Statements, Converse and Contrapositive, and Uniqueness before class on Tuesday 9/2
Homework 1 (solutions) is due at the beginning of class on Thursday 9/4
Re-submission for Homework 1 is due at the beginning of class on Thursday, 9/11
Read the proof of Theorem 3.2.23 before class on Thursday 9/18
Homework 2 (solutions) is due at the beginning of class on Thursday 9/18

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Write up the proof of Theorem 3.3.12 (will not be collected) before class on Tuesday 9/23
Review the proof of Theorem 3.3.10 before class on Tuesday 9/23 (bring questions!)
Homework 3 (solutions) is due at the beginning of class on Thursday 10/2
Homework 4 (solutions) is due at the beginning of class on Thursday 10/16
Homework 5 (solutions) is due at the beginning of class on Thursday 10/30
Homework 6 (solutions) is due at the beginning of class on Thursday 11/13
Homework 7 is due at the beginning of class on Thursday 12/4