SPRING 2015 MATH 2360Q SECTION 1 GEOMETRY
INFORMATION AND SYLLABUS

Instructor: Alan Parry **Email:** alan.parry@uconn.edu **Phone:** 860-426-2362

Office: MSB 233 **Office Hours:** TuTh 10:00am - 11:30am

Classroom: MSB 411 **Class Time:** TuTh 12:30pm - 1:45pm

Course Description: A fresh look at geometry, old and new. Euclidean and non-Euclidean geometries are examined from from different perspectives. Topics may include symmetries, the role of the parallel postulate and some topics from 19th and 20th century geometry, e.g. fractals and knots.

Course Prerequisites: MATH 1121(113), 1126, or 1131(115).

Required Textbook: Foundations of Geometry, by Gerard A. Venema, 2nd edition

Final Exam: Thursday, May 7 at 10:30am in MSB 411

Homework: Homework problems will be assigned weekly and will usually be collected on Fridays. You will receive an additional 10% on your score if you write your solutions using LaTeX. Late homework will NOT be accepted except for unusual circumstances, and in that case, only if I have been notified beforehand and approve of a new due date. For all of the homework, you are strongly encouraged to work together, but your work and proofs should be in your own words. If you need help, please utilize my office hours as well as the services of the Q Center when available.

Exams: There will be two Midterm exams. They will be held in class on Thursday, February 19 and Thursday, April 2. No makeup exams will be offered. If you have a valid reason for missing the exam and notify me beforehand, I will use your final exam grade as your grade for your missed exam (effectively increasing the amount of your grade the final exam encompasses). It is also possible that there may be take home portions of some or all of these exams.

Final Exam: The final exam is tentatively scheduled at 10:30am on Thursday, May 7 in MSB 411. No make up will be given for the final exam or provision made for those who miss it except within accordance to university policy concerning the missing of a final examination. A request to reschedule the final exam is generally only granted to someone who has a set of "bunched finals" or an approved extenuating circumstance. If the conflict is known in advance, notice must be given well in advance of the final exam. Illness on the day of the final exam must be verified by Student Health Services and all requests must come through the Office of Student Services & Advocacy (OSSA). Please see the OSSA website (http://www.ossa.uconn.edu/) for more information.

Q Center: There is free tutoring available sometimes in the Q Center on the first floor of the Homer Babbage Library on Sunday through Thursday. It depends on whether the tutors on duty feel comfortable helping with our course material. See the Q Center website (http://qcenter.uconn.edu/index.php) for more information on when tutors are on duty for Geometry help. Also, they have a list of private tutors you can hire if you need extra help.

Calculators: Calculators and/or computer algebra systems will not generally be needed in this course, nevertheless they are allowed to be used in the course. However, unless otherwise stated, the exams will be written so they can be done without the need of a calculator and as such, calculators will NOT be allowed on the exams.

Grades: Scores for assignments and exams will account for the following portions of your final grade.

30% Homework
20% Midterm 1
20% Midterm 2
30% Final Exam

However, to make grading more convenient, I have designed the course grading so that a point on a homework may not necessarily equal a point on a midterm exam or final.

Absences and Make-Up Work: It is solely your responsibility to be in class. I will not take roll. If you miss class due to illness or other reasons, it is your responsibility to obtain notes from a friend and/or find out from me or others what we covered in class. Generally, missed exams or quizzes cannot be made up, however, policies regarding missed work in any of these categories can be found in the appropriate section above.

Academic Integrity: Honesty and integrity are essential in a strong education; if you cheat or lie, you are disadvantaging yourself as well as others. As such, cheating of any kind will not be tolerated in this class. You have the freedom to use whatever resources available to you for homework assignments. However, for the quizzes, midterm exams, and the final exam should represent entirely your own work. You may not use any outside resources for these exam like assignments. Cell phones, ipods, mp3 players, ipads, etc. must be turned off and put away during quizzes or exams as should everything else except your calculator, pencil, eraser, and perhaps some blank scratch paper. Any programs on your calculators should be deleted beforehand. Any other questionable behavior should also be avoided, i.e. if you have a question about whether something you are doing or plan to do is cheating, either ask me about it or simply do not do it. Any deviation from these required behaviors will constitute a violation of the Student Code and will result in severe consequences. These consequences may include, but are not limited to, receiving a 0 for that particular exam, receiving an "F" for the entire course, and/or my sending of a letter to the Dean of Students. For more information, see the full version of the Student Code of Conduct at http://www.community.uconn.edu/student_code.html.

General Expectations: All of you are collegiate level students and so I expect collegiate level commitment to this class. This is an important class even if you think it is not essential to your future job or major. A solid math background is vital to any well rounded education and will benefit you in ways that you may not realize right now. As such, it is very important for you to take this course seriously and work hard. Complete all of the assignments, attend all of the classes, and get any and all extra help that you may need throughout the course. Don't just do it for the sake of a grade, but do it for the sake of your own education.

SPRING 2015 MATH 2360Q SYLLABUS

Day	Section(s)	Topic(s)
Jan 20 - 22	Chp. 1	Euclid
	2.1 - 2.4	Axiomatic Systems and Incidence Geometry The Parallel Postulates and Axiomatic Systems in the Real World
Jan 27 - 29	2.5	Theorems, Proofs, and Logic
Feb 3 - 5	3.1 - 3.3	Two Fundamental Axioms and Distance The Ruler Postulate Plane Separation
Feb 10 - 12	3.4 - 3.5	Angle Measure and the Protractor Postulate The Crossbar Theorem and the Linear Pair Theorem
Feb 17	3.6 - 3.7	The Side-Angle-Side Postulate, The Parallel Postulates, and Models
Feb 19	2.1 - 3.7	**Midterm Exam 1**
Feb 24 - 26	4.1 - 4.4	The Exterior Angle Theorem and Existence of Perpendiculars Triangle Congruence Conditions and Three Inequalities for Triangles The Alternate Interior Angles Theorem
Mar 3 - 5	4.5 - 4.8	The Saccheri-Legendre Theorem and Quadrilaterals Statements Equivalent to the Euclidean Parallel Postulate Rectangles and Defect
Mar 10 - 14	4.9	The Universal Hyperbolic Theorem
	5.1 - 5.4	Basic Theorems of Euclidean Geometry and the Parallel Projection Theorem Similar Triangles and The Pythagorean Theorem
Mar 17 - 19		Spring Break
Mar 24 - 26	5.5 - 5.6	Trigonometry and the Geometry of the Triangle
	6.1 - 6.3	Basic Theorems of Hyperbolic Geometry Common Perpendiculars and The Angle of Parallelism

Day	Section(s)	Topic(s)
Mar 31	6.4, 6.6, 6.7	Limiting Parallel Rays The Classification of Parallels Properties of the Critical Function
Apr 2	4.1 - 6.7	**Midterm Exam 2**
Apr 7 - 9	6.8 7.1 - 7.3	The Defect of a Triangle The Neutral Area Postulate Area in Euclidean Geometry and Dissection Theory
Apr 14 - 16	7.6 8.1 - 8.2	Area and Defect in Hyperbolic Geometry Circles and Lines in Neutral Geometry Circles and Triangles in Neutral Geometry
Apr 21 - 23	8.3, 8.5 10.1	Circles in Euclidean Geometry Circumference and Area of Euclidean Circles Properties of Isometries
Apr 28 - 30	10.2 - 10.3 11.1-11.2 12.1	Rotations, Translations, and Glide Reflections Classification of Eulcidean Motions and Models Curved Surfaces

Final Exam: Thursday, May 7 at 10:30am in MSB 411