MATH 3352-01 **(Modern Geometry I)**

Syllabus for Spring 2019

**Classroom**: EVCOBE 111

**Time:** Fridays 9:20am - 11:50am

**Instructor:**

Dr. Zhijun (George) Qiao

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Webpage: <http://faculty.utrgv.edu/zhijun.qiao> (**Online notes are available** at Blackboard)

**Office hours**: Tuesdays & Thursdays 9:00am – 10:00am or by appointment.

**Prerequisite**: MATH 2318 (Linear Algebra) with a grade of “C” or better.

**Textbook:** Foundations of Geometry, 2nd Edition by Gerard A. Venema, Pearson, ISBN 0136020585.

**Calculators and Other Electronic Equipment**: A scientific or graphing calculator will be recommended, but not required. To see mathematical graphs with formulas, we will use the free software *GeoGebra*.

**Daily supplies:**  You need to bring Textbook, Notebook, Loose leaf paper, Graph paper, Pen, Pencil etc to the class.

**Objective:** This course studies Euclidean and non-Euclidean geometries focusing on axiomatic systems.

**Course Student Learning Objectives**: After completing this course students will

1. Demonstrate an understanding of the historical development of geometry from its Euclidean foundations to the formulation of hyperbolic and elliptical non-Euclidean geometries.
2. Demonstrate an understanding of the axiomatic foundations of various geometries and skill in formulating conjectures, proving theorems, disproving non-theorems, and solving problems in these geometries.
3. Demonstrate an understanding and skill in comparing and contrasting geometries - finite, non-finite, L1, L2, affine, projective, elliptic, hyperbolic, parabolic, and such.
4. Demonstrate an understanding and skill in proving theorems and solving problems in two and three-dimensional Euclidean geometry whether through synthetic, vector, matrix, and/or transformational approaches.
5. Demonstrate an understanding and skill with Geogebra, Geometer's Sketchpad, Maple and other software as it relates to different approaches and the study of different geometries.

**Topics:** Axiomatic systems in Geometry (Chapters 2 and 3), Neutral Geometry (Chapter 4), Hyperbolic Geometry (Chapter 6), and Models (Chapter 11).

**General Grade Policy**

**Quizzes and Homework –** Homework assignment be issued on a regular basis and will consist of problems from the WeBWork, textbook and occasional handout. In general, all homework problems are assigned through WeBWork. Quizzes and Tests are based on the homework problems. A short quiz will be taken every week. It is strongly recommended that students work all those homework problems since quiz and test score are used to determine your grade. Completing the assignments is the ***single most important part*** of this course. You will be expected to spend, on average, about 3 hours each week to complete the assignments. You are allowed to work in groups to complete the homework, but the quiz paper must be finished solely by you. Any type of academic dishonesty will be handled by the instructor or by the appropriate administration. A homework assignment sheet will be delivered to everybody on the 1st day class. No late re-quiz will be accepted.

**Tests –** there will be three one-hour in-class tests. All tests must be taken during their scheduled times. The test time will be announced in advance (basically, a test will be given monthly), and a short review will be given before each test. All students must show their work on the tests. Score will be provided to you separately. No retest opportunities.

**Final Exam –** The comprehensive final exam is tentatively scheduled on May 3 (F), 2019, 8:00am – 9:45am. All students must take the final exam at the scheduled time. A summary review will be given in the class before the final exam.

**Grading –** The course grade will be based on

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| --- | --- |
| Best 10 of the weekly quiz/HW at 10 pts each | 100 pts |
| Test 1 | 100 pts |
| Test 2 | 100 pts |
| Test 3 | 100 pts |
| Comprehensive Final Exam | 100 pts |
| Total | 500 pts |

The course grade will be assigned according to a scale no higher than A(90-100%), B(80-89%), C(70-79%), D(60-69%), F(below 60%).

**THERE WILL BE NO MAKE-UP QUIZZES OR EXAMS GIVEN**.

If a student is absent during a scheduled major test and quiz, the student must go by the instructor’s office during the scheduled office hours to discuss the validity of the excuse.  In the case of a valid excuse, the missed test grade will be replaced by the final exam grade.    If a student does not have a valid excuse, the grade for the missed test is a zero and cannot be replaced.  If you arrive late to a test you will not be given additional time to complete the exam.  Anyone arriving to a test after somebody else who took the exam has left will not be allowed to take the exam. Students missing more than one exam may be dropped from the course. With an unexcused absence, a score of 0 will be recorded for the missed HW/Quiz or exam.

**Tutoring:** There are several tutoring places available on campus. Math Lab, EMAGC 1.106 and the Math Learning Center in the LEAC Building.

***Classroom Behavior:***

* All beepers and cellular phones must be turned off before you enter the classroom.
* Once in class, a student is expected to remain in class for the duration of the class.  If a student needs to leave class early, than the student needs to discuss the situation with the instructor before class begins.
* During class students are expected to be courteous to the instructor and other classmates. Examples of discourteous behavior are unnecessary talking, sleeping, tardiness, leaving class while instructor is lecturing, sharpening pencils during the lecture, etc.
* No Food Allowed In Classroom.
* Chronic tardiness and discourteous behavior will not be tolerated and is cause for a student's dismissal from class for the remainder of the semester.

**UTRGV Policy Statements**

UTRGV requires all electronic communication between the University and students be conducted through the official University supplied systems UTRGV-Mail. Please use your UTRGV-Mail account for all correspondence with me.

**Calculators, Cell Phones, and Other Electronic Equipment**

Calculators will be permitted for use on quizzes and exams. Electronic equipment such as cell phones, pocket organizers, tablet or laptop computers, or electronic writing pads or pen-input devices will not be permitted during quizzes and exams. Please make sure that cell phones are turned off and stored way during class.

**MANDATORY COURSE EVALUATION PERIOD:**

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account ([*https://my.utrgv.edu/home*](https://my.utrgv.edu/home)); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available: Apr 12 – May 3 for full spring semester courses

**ATTENDANCE:** Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

**STUDENTS WITH DISABILITIES:**

If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time. **Brownsville Campus**: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at [ability@utrgv.edu](mailto:ability@utrgv.edu). **Edinburg Campus:** Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at [ability@utrgv.edu](mailto:ability@utrgv.edu).

**SCHOLASTIC INTEGRITY:**

As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

**SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE:**

In accordance with UT System regulations, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at [www.utrgv.edu/equity](http://www.utrgv.edu/equity), including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.

**COURSE DROPS:** According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

### **Spring 2019 Term (January 14 – May 9)**

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| Oct. 29 (Mon.) | Registration begins |
| Jan. 9 (Wed.) | Payment Due |
| Jan. 11 (Fri.) | Waitlist ends  Last day to withdraw (drop all classes) for a 100% refund |
| Jan. 14 (Mon.) | Spring classes begin |
| Jan. 17 (Thurs.) | Last day to add or register for Spring classes |
| Jan. 18 (Fri.) | Last day to withdraw (drop all classes) for a 80% refund |
| Jan. 21 (Mon.) | Martin Luther King Jr. Holiday. No classes. |
| Jan. 28 (Mon.) | Last day to withdraw (drop all classes) and receive a 70% refund |
| Jan. 30 (Wed.) | Census Day (last day to drop without it appearing on the transcript) |
| Feb. 4 (Mon.) | Last day to withdraw (drop all classes) and receive a 50% refund |
| Feb. 11 (Mon.) | Last day to withdraw (drop all Spring classes) and receive a 25% refund |
| Mar. 11 – Mar. 16 (Mon. – Sat.) | Spring Break, no classes |
| April 10 (Wed.) | Last day to drop (DR grade) a class or withdraw (grade of W) |
| April 19 – April 20 (Fri. – Sat.) | Easter Holiday, no classes |
| May 2 (Thurs.) | Study Day, no classes |
| May 3 – 9 (Fri. – Thurs.) | Final Exams |
| May 10 - May 11 (Fri. – Sat.) | Commencement exercises |
| May 13 (Mon.) | Grades due at 3:00 p.m. |

# Math 3350 Homework Assignments

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| Chapter | Section | Pages | Problems |
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