

MATH 3352 Modern Geometry I

Syllabus for Spring 2016

Time: Monday and Wednesday 5:55pm-7:10pm

Classroom: MAGC 1.208

Instructor

Name: Dr. Sergey Grigorian

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Office hours: Tuesday and Thursday 4:25pm-5:55pm in MAGC 3.426, or by appointment

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

Software: We will be using the free software *GeoGebra*

Prerequisites: MATH 2318 (Linear Algebra) is required with a grade C or better.

Course Description: This course studies Euclidean and non-Euclidean geometries focusing on axiomatic systems.

Student Learning Outcomes: 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 covered: Axiomatic systems in Geometry (Chapters 2 and 3), Neutral Geometry (Chapter 4), Euclidean Geometry (Chapter 5), Hyperbolic Geometry (Chapter 6), Area (Chapter 7) and Models (Chapter 11).

Calculators: A calculator is **not** required for the course.

Homework: Reading assignments and homework problems will be assigned on a regular basis. Students will be encouraged to present their solution in class. Overall the homework and participation will contribute 10% of the final grade.

Exams and grading: There will be regular in-class quizzes, as well as two *take-home* midterm exams and a final exam (date and time TBD). Take-home exams must be your own work and copying from each other or any other source is plagiarism and is not acceptable. Any instances of plagiarism will result in an automatic F for the course and possibly further disciplinary action.

	<i>% of the Final Grade</i>
<i>Homework and participation</i>	10%
<i>In-class quizzes</i>	35%
<i>Take-home Exam 1</i>	15%
<i>Take-home Exam 2</i>	15%
<i>Final</i>	25%

Make-ups: **THERE WILL BE NO MAKE-UP EXAMS GIVEN.**

If a student is absent during a scheduled major exam, the student must first contact the instructor to explain 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 exam.

Attendance policy: Attendance is **mandatory**; arriving 15 minutes late is considered an absence. If three or more absences have accumulated, the instructor has the right to drop the student from class in accordance with policies set by the University of Texas-Pan American. It is strongly advised to attend each lecture. If you do miss a class, it is your **responsibility** to determine what class work and notes were missed and make arrangements to comply with all missed assignments by yourself. On the **third absence**, the student will receive an automatic **F**, unless approved by the instructor. Students arriving late or leaving early without prior arrangements may be recorded absent for the day.

Drop Policies: **A student may drop the course at any time before the final exam. A student wishing to drop the course must submit and sign a DROP FORM.** The forms can be obtained at the Registrar's Office or at the Department's Secretary Offices. Remember that it is the responsibility of the student to follow the procedure in the university catalog for dropping a course.

The deadline to drop the course is TBA.

Classroom Behavior:

- All cell phones must be turned off and put away before you enter the classroom. No cell phone use allowed in class.

- 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 the 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.

Calendar of Activities

- January 19 Classes Begin
- February 3 Census day
- March 14-18 Spring Break
- April 13 Drop/Withdrawal Deadline; last day for students to drop the course and receive a DR grade.
- May 5 Study Day; no classes
- May 6-12 Final exams

Special Accommodations: 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 accessibility@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 accessibility@utrgv.edu.

Mandatory Course Evaluations Period (April 13 – May 4) Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (<http://my.utrgv.edu>); you will be contacted through email with further instructions. Online evaluations will be available Apr. 13 – May 9, 2016. Students who complete their evaluations will have priority access to their grades.

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, 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.