MTH 1318.001, Analytic Geometry  
Department of Mathematics and Statistics 
Fall 2020

Professor:  Dr. Lynn Greenleaf  
Office:  340 Mathematics building  
Office Phone:  936.468.1882  
Office Hours:  (or by appointment) Office hours will be held over Zoom

Class Times & Place:  11-12:15 TR, via Zoom

Room 202, Math Building  
Email:  greenleal@sfasu.edu

Monday  Tuesday  Wednesday  Thursday  Friday
3-5 pm  1-3 pm  4-5 pm

Description: This is a beginning course in plane analytic geometry emphasizing the correspondence between geometric curves and algebraic equations. This correspondence makes it possible to reformulate problems in geometry as equivalent problems in algebra, and vice versa. Curves studied include straight lines, circles, parabolas, ellipses, and hyperbolas. Coordinate transformations, polar coordinates, and parametric equations are also studied. The course assumes a sound background in algebra, geometry, and trigonometry.

Text and Materials: Analytic Geometry 6th edition, by Douglas F. Riddle is the required textbook. For exams, students may use a scientific or graphing calculator, but not symbolic calculators. For example, you may use a TI-83/84, but not a TI-89. If you have any questions about your calculator, please see me.

Exam Schedule: Please note that the dates for our in-class exams below are subject to change. If you need to change the date of your exam, you must get it approved through Student Rights & Responsibilities, sfajudicial@sfasu.edu. The final is university scheduled and cannot be taken at a different time without permission of the Dean of the College of Sciences and Mathematics. Please schedule your end-of-semester travel plans accordingly.

- Exam 1: Thursday, September 24
- Exam 2: Thursday, October 22
- Exam 3: Thursday, November 19
- Final: Thursday, December 10, 10:45-1:15 via Zoom

Course Requirements:
- Three in-class exams—If a student must miss an exam due to an excused absence, special arrangements should be made in advance. You must get it approved through Student Rights & Responsibilities, sfajudicial@sfasu.edu. Cell phones are not allowed out during exams, even if that is all you brought. Students are responsible for bringing their own calculator to exams, see above for restrictions on calculators. No music (even through headphones) is allowed during exams.
- Weekly homework -- Weekly homework will be assigned and collected for a grade. Exceptions may be made because of exams. No late homework will be accepted for a grade.
- Weekly quizzes -- Weekly quizzes will be given every Thursday, unless there is an exam on that day or if it is dead week.
- A comprehensive final exam—The final exam is Thursday, December 11, 10:45-1:15.
- Class attendance and participation—Students are expected to attend all class meetings, arriving on time. If you are absent, you are responsible for determining what you missed and for being prepared for class when you return. Leaving class early without notifying the professor in advance will result in your being counted absent for the class session. Students that sleep in class, send or receive text messages, or conduct other online activities not directly related to class will be counted absent.
- Preparing for class—Students should be prepared to invest several hours per day outside of class reading the text, practicing examples, and working homework exercises. Material to be discussed in class should be read before coming to class. Check your university email regularly, as I may send reminders, assignments, or announcements.
- Other – There will be no extra credit or alternate credit assignments for this class.

Grading Policy:  
60%  Three in-class Exams  
15%  Homework  
5%  Quizzes  
20%  Comprehensive Final Exam

Grading Scale:  
90% - 100%:  A  
80% - 90%:  B  
70% - 80%:  C  
60% - 70%:  D  
Below 60%:  F

The first page of this document is a synopsis for your quick reference of class policies, dates and contact information for MTH 139.002. My complete course policy sheet and syllabus containing other important university and college policies can be found online in your MTH 139 course in d2l. You are responsible for reading the entire course policy sheet online.
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH may be assigned only if

Per SFA policy 5.4, your schedule should reflect that there is (1) an amount of student work per credit hour that reasonably approximates not less than one hour of class or direct faculty instruction and two hours of out-of-class student work per week for fifteen weeks over a long semester, or the equivalent amount of work over a different amount of time; or (2) at least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

Student Learning Outcomes (SLO): At the end of MTH 139, a student who has studied and learned the material should be able to:

1. Solve problems involving lengths and distances in the plane, including midpoint and point-of-division formulas.
2. Demonstrate understanding of the notions of slope and inclination of lines, including angles between lines, parallel lines, and perpendicular lines.
3. Recognize the relationship between equations in two variables and graphs in the plane and use the equations to find pertinent information such as points of intersection, and intercepts.
4. Perform arithmetical and geometric operations involving vectors in the plane.
5. Use vectors to solve geometric and physical problems.
6. Sketch graphs of and discuss relevant features of curves in the plane determined by certain equations (including lines, circles, parabolas, ellipses, hyperbolas, polynomial functions, rational functions, and features such as slope, inclination, center, radius, vertices, foci, axes, eccentricity, intercepts, asymptotes).
7. Determine equations of curves when given information that determines the curves.
8. Perform translations and rotations of the coordinate axes to eliminate certain terms from equations.
9. Model real world situations with equations of conics.
10. Use the polar coordinate system, relate it to the rectangular coordinate system, and graph equations using polar coordinates.
11. Sketch graphs in the plane determined by parametric equations by direct sketching as well as elimination of the parameter to obtain a rectangular equation.

There are no specific program learning outcomes for this major addressed in this course. It is a general education core curriculum course and/or a service course.

Attendance Policy: Students are expected to attend all class meetings, arriving on time. If you are absent, you are responsible for determining what you missed and for being prepared for class when you return. When class begins, roll is taken, and if you are not in your seat, you will be counted absent. Leaving class early without notifying the professor in advance will result in your being counted absent for the class session. Late reading questions are not accepted. Bring your university ID card to all exams.

AARC: The Academic Assistance and Resource Center (AARC) located on the first floor of the Steen Library offers several types of academic assistance. All services are FREE. See the AARC web pages for more information http://libweb.sfasu.edu/aarc.

Relevant University Policies
Academic Integrity (Policy A-9.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism. The penalty for a student found cheating on any part of an assignment, quiz, or exam in this class will range from a grade of zero on the work to a grade of F in the course, and may result in additional, more severe disciplinary measures. A student who allows another to copy his work and the student copying the work are both guilty of cheating. Do your own work. Do not show your completed work to others. Do not allow others to copy your work.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit.

Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp.

Withheld Grades Semester Grades Policy (A-54)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if

Course outline:

- Introduction to plane analytic geometry 20%
- Vectors in the plane 5%
- Lines 10%
- Conic sections 25%
- Coordinate transformations 1 15%
- Curve sketching 15%
- Polar coordinates and parametric equations 10%

Approximate time spent
the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

**Students with Disabilities**

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices](http://www.sfasu.edu/disabilityservices).

**Acceptable Student Behavior**

- Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1 [http://www.sfasu.edu/policies/student_conduct_code.asp](http://www.sfasu.edu/policies/student_conduct_code.asp)). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.