Texas A&M University - Texarkana

MATH 321 – Modern Geometry

Course Syllabus

Spring 2012

Instructor: Chris Sinquefield

Office: SCIT 119-2

Office Hours: T 10-12 p.m., 1-4 p.m.; W 10-12 p.m., 2:15-5:15 p.m.

Office Phone: 903-223-3178

Email: chris.sinquefield@tamut.edu

Course Number: MATH 321
Course Title: Modern Geometry
Course Times: T TH 4:00-5:15 p.m.
Classroom: UC243

Catalog Description: Advanced Euclidean geometry, geometric constructions, finite geometries, and non-Euclidean geometry. Computer geometry software will be used.

Prerequisites: Calculus I

Text: *College Geometry: A Discovery Approach*, 2nd Ed., by David C. Kay. Published by Pearson, 2000.
ISBN-13: 9780321046246

Required Materials:
1) Access to a PC with printing and CD burning capabilities and loaded with Geometer's Sketchpad.
2) Compass, straight edge, and a protractor.
3) Unlined copy paper for construction assignments and note-taking.
4) A calculator will be essential for some parts of the course. A good choice would be a TI-83 or 84 graphing calculator.
5) Blank CDs for burning and submitting assignments

Course Format: This will be a traditional lecture-style course with the following key elements:

- Student-centered instruction
- Student engagement, input, and feedback
- Small peer group/partner activities
- Q&A's for homework problems and concept clarification
- Problem-solving strategies

This is an ITV course and will be televised on the NTCC campus. The instructor will make approximately 6 visits to NTCC and broadcast from the classroom there.

Learning Objectives

After successfully completing this course, a student should be able to:

- Understand the key axioms of Euclidean geometry and its associated constructions and theorems.
- Communicate clearly the foundational concepts of non-Euclidean geometries and their associated constructions and theorems.
- Apply problem-solving strategies confidently to reach viable solutions of real-world problems

Sequence of Material

Week 1-2	Chapter 1 – Exploring geometry (including an introduction to dynamic geometry software)
Week 3-5	Chapter 2 – Points, lines, segments, and angles
Week 6-8	Chapter 3 – Triangles, quadrilaterals, and circles
Week 7-10	Chapter 4 – Euclidean geometry – trig, coordinates, and vectors
Week 11-13	Chapter 5 – Transformations in geometry
Week 14-15	Chapter 6 – Non-Euclidean geometries
Week 16	Final exam

The pacing and sequence of material may be altered in the interest of time and to maximize student success.

Evaluation and Grading

The course grade will be based on accumulated points earned out of total points possible on homework, assignments, group exercises, and exams.

Exams – There will be approximately four exams worth 150 points and a comprehensive final worth 200 points. Any exam missed will be recorded as a zero. A make-up exam will be considered only in the case of a serious personal or infectious illness which prevented your attendance. This must be corroborated by a note from a licensed physician. You must contact me before the scheduled examination time in order to be eligible for this consideration.
Homework – Exercises will be assigned and collected before each exam. The work will be checked for completion. If so, 5 points will be earned. If not, no points will be earned. Under no circumstances will homework be accepted late.
Assignments – Approximately four individual assignments will be given worth 50 points each. All assignments will be accompanied by a deadline and a published rubric. Under no circumstances will assignments be accepted late.
Group Exercises – At various times throughout the semester, short group exercises worth 25 points each will be assigned and collected during the period to stimulate interaction and reinforce comprehension. They will not be announced in advance and cannot be made up.

Final evaluation:

Four in-class exams	600
Comprehensive final exam	200
Homework	100
Assignments	200
Group exercises	250
Total	1350

Instructor's Note: These point totals are approximate and may change during the course of the semester. Students will be notified of any changes as they are made.

Grading Scale:

$$90 \le A \le 100$$
$$80 \le B < 90$$
$$70 \le C < 80$$
$$60 \le D < 70$$
$$F < 60$$

Calculator

TI graphing calculators will be available through TAMU-T for student use during this course. Calculators are checked out through the library. You should return the calculator to the library upon completion of the course.

Academic Integrity

Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, falsification of research data, plagiarism, and undocumented use of materials from any source, constitute academic dishonesty, and may be grounds for a grade of "F" in the course and/or disciplinary actions. For additional information see the university policy manual.

Disability Accommodation

Students with disabilities may request reasonable accommodations through the A&M-Texarkana Disability Services Office by calling 903-223-3062.

Email Usage

Upon application to Texas A&M University-Texarkana an individual will be assigned an A&M-Texarkana email account. This email account will be used to deliver official university correspondence. Each individual is responsible for information sent and received via the university email account and is expected to check the official A&M-Texarkana email account on a frequent and consistent basis. **NOTE:** *Faculty and students are required to utilize the university email account when communicating about coursework*.

Drop Policy

To drop this course after the 12th class day, a student must complete the Drop/Withdrawal Request Form, located on the University website http://tamut.edu/Registrar/droppingwithdrawing-from-classes.html) or obtained in the Registrar's Office. The student must submit the signed and completed form to the instructor of each course indicated on the form to be dropped for his/her signature. The signature is not an "approval" to drop, but rather confirmation that the student has discussed the drop/withdrawal with the faculty member. The form must be submitted to the Registrar's office for processing in person, email Registrar@tamut.edu, mail (P. O. Box 5518, Texarkana, TX 75505) or fax (903-223-3140). Drop/withdraw forms missing any of the required information will not be accepted by the Registrar's Office for processing. It is the student's responsibility to ensure that the form is completed properly before submission. If a student stops participating in class (attending and submitting assignments) but does not complete and submit the drop/withdrawal form, a final grade based on work completed as outlined in the syllabus will be assigned.

Additional Notes

The instructor reserves the right to modify this syllabus at any time as deemed necessary. Any modifications will be announced as soon as possible. The faculty of the College of Science, Technology, Engineering, and Mathematics is committed to the continuous improvement in the quality of instruction. Student input is important and will be obtained at the end of the course.