



**Mathematics 301: Elementary Geometry
COURSE SYLLABUS: Summer 2015**

Instructor: Vanessa Huse, Ed.D.

Office Location: Bain Center, 228 – Navarro College Center-Corsicana

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COURSE INFORMATION

Materials – Textbooks and Software:

Elementary Geometry for College Students, 6th Edition, Daniel C. Alexander | Geralyn M. Koeberlein ISBN- **978-1285195698**

Optional:

A calculator – graphing is better

Course Description:

Topics from plane and solid Euclidean geometry will be covered, including the properties of parallels, perpendiculars, triangles, and circles along with perimeter and formulas for area of plane regions and for the surface area and volume of solids. Prerequisite Math 351.

Course Competencies:

The beginning teacher of middle school mathematics should know and understand:

1. how to use spatial reasoning to investigate concepts such as directions, orientation, perspective, shape and structure;
2. the use of mathematical reasoning to develop, generalize, justify and prove geometric relationships;

- connections among geometric ideas and number concepts, measurement, probability and statistics, algebra and analysis;
- measurements as a process;
- methods of approximation and estimation and the effect of errors on measurement;
- how to use measurement to collect data, to recognize relationships, and to develop generalizations, including formulas;
- how to locate, develop, and solve real-world problems using measurement and geometry concepts;
- how to explore geometry for synthetic, coordinate, and transformational approaches;
- logical reasoning, justification and proof in relation to the axiomatic structure of geometry ;
- how geometry, spatial reasoning and measurement concepts and principles are developmental and connected across grade levels.

Student Learning Outcomes:

When you complete this course, you will be able to:

- develop, justify and perform geometric constructions using compass, straight-edge and reflection devices and other appropriate technology;
- investigate and prove geometric relationships within the axiomatic structure of Euclidean geometry;
- analyze and solve problems involving one, two and three dimensional objects such as lines, angles, circles, triangles, polygons, cylinders, prisms, and spheres;
- analyze the relationship among three dimensional figures and related two dimensional representations and use these representations to solve problems.
- apply measurement concepts and dimensional analysis to derive units and formulas for a variety of situations including rates of change of one variable with respect to another
- use symmetry to describe tessellations and show how they can be used to illustrate concepts, properties and relationships
- relate geometry to algebra and trigonometry by using the Cartesian coordinate system and use this relationship to solve problems
- use calculus concepts to answer questions about rates of change, areas, volumes and properties of functions and their graphs.

COURSE REQUIREMENTS

Instructional / Methods / Activities Assessments

The goal of this course is to develop *understanding* of the mathematics. We are constantly going to be dealing with *WHY* more than *HOW*. As a future teacher you must be able to *explain* mathematics to your students, not just show them how to carry out mathematical procedures. We will focus on underlying structures and development of ideas. In addition, problem solving is a major component of this course. As a future mathematics teacher, you need to become familiar with and skilled in various types of problem solving techniques that are commonly used in mathematical thinking.

Grading

Grading will be based on research projects, a midterm, homework and a comprehensive final exam. In order to successfully mathematically prepare today's children for the technological world they face, a middle school teacher must have a solid understanding of a broad spectrum of mathematics, including mathematics at a level considerably beyond the grade he/she teaches.

Research Projects–	20%
Homework -	20%
Midterm -	30%
Final –	30%

TECHNOLOGY REQUIREMENTS

Internet access (high-speed preferred)

Word processing software (Microsoft Word preferred)

As a student enrolled at Texas A&M University-Commerce, you have access to an email account via myLeo - all my emails sent from eCollege (and all other university emails) will go to this account, so please be sure to check it regularly. Conversely, you are to email me via the eCollege email system or your myLeo email as our spam filters will catch yahoo, hotmail, etc.

ACCESS AND NAVIGATION

Access and Log in Information

This course will be utilizing eCollege to enhance the learning experience, eCollege is the Learning Management System used by Texas A&M University-Commerce

You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000.

COMMUNICATION AND SUPPORT

Texas A&M University-Commerce provides students technical support in the use of eCollege. The student help desk may be reached by the following means 24 hours a day, seven days a week. If you experience issues while taking your exams or at any other point, feel free to contact the support desk.

Phone: 1-866-656-5511 (Toll Free) to speak with eCollege Technical Support Representative.

• **Email:** helpdesk@online.tamuc.org to initiate a support request with eCollege Technical Support Representative.

• **Help:** Click on the 'Help' button on the toolbar for information regarding working with eCollege

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Attendance

It is the prerogative of the instructor to drop students from courses in which they have accrued excessive absences (three or more). However, a student wishing to drop the course should do so. Failure to do so may result in a failing grade. Attendance is strongly encouraged for your own benefit. Any work missed due to your absence is your responsibility and should be made up as soon as possible. If you should miss a lecture, you should get a copy of someone's notes and then I will answer any questions you have over those notes. Attendance in an online course will be observed by login into the course. Three weeks without a login will be considered excessive absences.

Make-ups: There will be no make-ups for the Midterm, the final will count 60% of your final average.

Cheating: Cheating of any kind will result in an F for the term. All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See Student's Guide Handbook, Policies and Procedures, Conduct)

Academic Honesty Policy

Texas A&M University-Commerce does not tolerate **plagiarism** and other forms of academic **dishonesty**. Conduct that violates generally accepted standards of academic honesty is defined as academic dishonesty. "Academic dishonesty" includes, but is not limited to, plagiarism (the appropriation or stealing of the ideas or words of another and passing them off as one's own), cheating on exams or other course assignments, collusion (the unauthorized collaboration with others in preparing course assignments), and abuse (destruction, defacing, or removal) of resource material.

Disciplinary action for these offenses may include any combination of the following:

1. Point deduction on an assignment.
2. Failure for an assignment.
3. A grade of zero for an assignment.
4. Failure for the course.
5. Referral to the Academic Integrity Committee or department head for further action.
6. Referral to the Dean of the College of Education and Human Services, Business and Technology, Arts and Sciences, or Graduate School as appropriate.
7. Referral to the University Discipline Committee.

8. Communication of student's behavior to the Teacher Certification Office and/or Dean of the College of Education as constituting a reason to bar student from entering into or continuing in a teacher certification program. Procedures, A 13.04, 13.12, 13.31, and 13.32

ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

StudentDisabilityServices@tamuc.edu

[Student Disability Resources & Services](#)

A&M-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

COURSE OUTLINE / CALENDAR

The course calendar is in eCollege listed by week. Assignments will be opened on Monday, Wednesday and Friday of each week. You will have two days to complete each assignment which is due at midnight. Testing for the midterm and final will be face-to-face, which means in person. Tests will be given in Commerce and Corsicana. Dates and times are listed below. If you are a student out of the State, please email me for instructions for testing.

Course Exams:

Midterm

Corsicana – June 23, 3:00 – 7:00

Commerce- June 22, 3:00 – 7:00

Final Exam

Corsicana – July 7, 3:00 – 7:00

Commerce- July 8, 3:00 – 7:00