BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

MATH 110 - Geometry **3 Unit(s)**

Prerequisite(s): MATH 108 or Math Level IV
Recommended Prep: Reading Level IV

Transfer Status: NT
51 hours Lecture

This course covers selected topics in geometry. The topics include congruence, similarity, parallelism, proofs, constructions, the perimeter, area and volume of geometric figures, and an introduction to right triangle trigonometry.

II. **OBJECTIVES**

Upon successful completion of this course, the student will be able to:

A. Demonstrate geometric reasoning skills and constructing skills, including the use of geometric tools such as rulers, protractors and compasses.
B. Calculate measurements of angles, lengths, areas and volumes of a variety of geometric figures in one, two and three dimensions.
C. Demonstrate proficiency in using geometric definitions, postulates, and theorems in proving properties related to parallel lines, triangle congruency and similarity, quadrilaterals and circles.
D. Demonstrate proficiency in understanding and implementing theorems, basic algebra, geometric rules, formulas and procedures in solving a variety of geometric problems.
E. Use geometry and its applications for everyday mathematical problems.

III. **COURSE CONTENT**

A. **Unit Titles/Suggested Time Schedule**

Lecture

Topics		Hours
1.	Geometric Shapes and Measurement	6.00
2.	Perimeter, Area and Volume	7.00
3.	Reasoning and Triangle Congruence	8.00
4.	Parallel Lines and Quadrilaterals	7.00
5.	Similarity	8.00
6.	Circles	7.00
7.	Coordinate Geometry	8.00
Total Hours		51.00

IV. **METHODS OF INSTRUCTION**

A. Lecture
B. Collaborative Group Work
C. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
D. Discussion
E. Board Work

V. **METHODS OF EVALUATION**

A. Exams/Tests
B. Quizzes
C. Class Assignments and Class Response
D. Daily Homework Assignments, where the student will demonstrate problem-solving skills

VI. **EXAMPLES OF ASSIGNMENTS**

A. Reading Assignments
   1. Read the section in the textbook on Proving Lines Parallel and be able to use all the methods discussed in formal geometric proofs regarding parallel lines.
   2. Read the section in the textbook on Congruent Triangles and be able to use multiple methods for proving triangles congruent.

B. Writing Assignments
   1. Write one or two sentences explaining how to find corresponding angles when two parallel lines are cut by a transversal.
   2. Describe in words how you know that two triangles are congruent.

C. Out-of-Class Assignments
   1. Review the section on Proving Lines Parallel and solve the problems assigned by the instructor, showing each step.
   2. Review the section in the textbook on Congruent Triangles and solve the problems assigned by the instructor, showing each step.

VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

A. Alexander, D.C., Koeberlein, G.M. Elementary Geometry For College Students. 5th Edition. Brooks/Cole Cengage Learning, 2011.

Materials Other Than Textbooks:

A. Scientific calculator

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