MATH 60 Course Outline as of Spring 2011

CATALOG INFORMATION

Dept and Nbr: MATH 60   Title: GEOMETRY/LIBERAL STUDIES
Full Title: Geometry for Liberal Studies
Last Reviewed: 11/24/2003

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	17.5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00   Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable
Grading: Grade or P/NP
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly:

Catalog Description:
This course is a study of Euclidean geometry, emphasizing its structure as a logical system. Recommended for liberal studies and elementary education students.

Prerequisites/Corequisites:
Math 155.

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: This course is a study of Euclidean geometry, emphasizing its structure as a logical system. Recommended for liberal studies and elementary education students. (Grade or P/NP)
Prerequisites/Corequisites: Math 155.
Recommended:
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**		Effective:	Inactive:
	B	Communication and Analytical Thinking	Fall 2004	Spring 2011
	MC	Math Competency	Fall 1981	Fall 2009
CSU GE:	**Transfer Area**		Effective:	Inactive:
IGETC:	**Transfer Area**		Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Major Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon successful completion of the course, students will be able to:
1. Define a mathematical system
2. Apply inductive reasoning to plane figures
3. Apply deductive reasoning to proofs of theorems
4. Define congruent and similar triangles
5. Define parallel and perpendicular lines
6. Apply perimeter and area formulas
7. Apply rigid transformations
8. Define tessellations
9. Apply volume and surface area formulas
10. Apply geometry software

Topics and Scope:

I. Basic Concepts
    A. Structure of a Mathematical System
        1. Undefined terms
        2. Theorems and proofs
    B. Angles
    C. Compass and straightedge constructions
II. Perpendicular and Parallel Lines
    A. Definitions and properties
    B. Triangle angle sum theorem
III. Triangles and Circles
    A. Congruence conditions for triangles
    B. Similar triangles
    C. Pythagorean theorem
    D. Circle theorems
IV. Plane Figures

A. Polygons
B. Perimeter
C. Area
V.   Transformations
A. Translations
B. Rotations
C. Reflections
VI. Tessellations
VII. Solids
A. Volume
B. Surface area
C. Euler's formula

Assignment:

1. Weekly reading from the text or instructor prepared materials (20 - 50 pages per week)
2. Assigned problems from the text or instructor prepared materials.
3. Performance exams such as compass and straight-edge constructions.
4. An oral or written project may be assigned.
5. Objective exams.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

written report may be assigned	Writing 1 - 15%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems	Problem solving 25 - 74%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Performance exams	Skill Demonstrations 20 - 40%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice	Exams 5 - 25%

Other: Includes any assessment tools that do not logically fit into the above categories.

PROJECT - ORAL OR WRITTEN (optional)	Other Category 0 - 15%

Representative Textbooks and Materials:

Geometry, An Investigative Approach, O'Daffer Clemens (2nd), Addison Wesley, 1992

Geometry and Its Applications, Walter Meyer, Academic Press, 1999