

## COURSE OUTLINE

Revision: Frank Post, January 2009

DEPARTMENT:	Academic Programs
CURRICULUM:	The Natural World
COURSE TITLE:	Math for Elementary School Teachers II – Geometry
COURSE NUMBER:	MATH& 132
TYPE OF COURSE:	Academic Transfer
Special Requirement Met:	Mathematics/Quantitative Reasoning
AREA(S) OF KNOWLEDGE:	Science Technology, and The Environment - The Language of Science
COURSE LENGTH:	1 quarter
CREDIT HOURS:	5
LECTURE HOURS:	55
LAB HOURS:	0
CLASS SIZE:	35
PREREQUISITES:	Math& 131 with a 2.0 or better or appropriate placement score.

## COURSE DESCRIPTION:

Covers the mathematics elementary teachers are responsible for teaching at K-8 levels, including polyhedra, polygons, symmetry, tessellations, size changes, curves, curved surfaces, transformations, length, angles, area and surface area, volume, measure formulas.

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STUDENT LEARNING OUTCOMES ADDRESSED:

May include (depending on chosen course content)

1. Communication – Read and listen actively to learn and communicate. Speak and write effectively.
2. Computation – Identify, interpret, and utilize higher level mathematical and cognitive skills (for those who choose to move beyond the minimum requirements as stated above).
3. Critical Thinking and Problem-Solving – Think critically in evaluating information, solving problems, and making decisions.
4. Technology – Select and use appropriate technological tools for personal, academic and career tasks.

GENERAL COURSE OBJECTIVES:

At the end of the course the student will be able to demonstrate:

1. A basic understanding of two-dimensional geometric shapes.
2. Knowledge of angles and quadrilaterals.
3. The ability to calculate size throughout two-dimensional geometry.
4. Knowledge of geometric patterns and transformations.
5. Comprehensive understanding of polyhedra and polygons.
6. Concepts and theories related to measurement.
7. Knowledge of three-dimensional geometry – volume and surface area.
8. The ability to use coordinate geometry in relation to algebra.
9. The relationship between algebra and geometry.

TOPICAL OUTLINE:

- I. Basic Two-Dimensional Geometry
- II. Angles and Shapes
- III. Perimeter and Area
- IV. Rotations and Reflections, Translations and Tessellations
- V. Three-Dimensional Geometry and Polygons
- VI. Polyhedra and Special Polygons
- VII. Surface Area and Volume
- VIII. Measurement in Two and Three Dimensions
- IX. Coordinate Geometry
- X. Linear Graphing on a Geometric Plane

Total hours:

55

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SLO #	Included in Course Objective Number	SSCC Student Learning Outcomes
SLO 1.1	9	Communication - Read and listen actively
SLO 1.2	9	Communication - Speak and write effectively
SLO 2.1	2, 6, 7	Computation - Use mathematical operations
SLO 2.2	2, 6, 7	Computation - Apply quantitative skills
SLO 2.3	1, 3, 4, 5, 6, 8, 9	Computation - Identify, interpret, and utilize higher level mathematical and cognitive skills
SLO 3.1		Human Relations - Use social interactive skills to work in groups effectively
SLO 3.2		Human Relations - Recognize the diversity of cultural influences and values
SLO 4.1	2, 4, 7, 9	Critical Thinking and Problem Solving -
SLO 5.1	1, 4, 5, 8	Technology - Select and use appropriate technological tools
SLO 6.1		Personal Responsibility - Be motivated and able to continue learning and adapt to change
SLO 6.2		Personal Responsibility - Value one's own skills, abilities, ideas and art
SLO 6.3		Personal Responsibility - Take pride in one's work
SLO 6.4		Personal Responsibility - Manage personal health and safety
SLO 6.5		Personal Responsibility - Be aware of civic and environmental issues
SLO 7.1		Information Literacy - Access and evaluate information
SLO 7.2		Information Literacy - Use information to achieve personal, academic, and career goals, as well as to participate in a democratic society

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