COURSE LEARNING OUTCOMES

DEPARTMENT: Mathematics

COURSE #: Math 360 **COURSE TITLE: Introduction to Modern Geometry** CATEGORY: TERM OFFERED: PRE-REQUISITES: Math 308 PRE/CO-REQUISITES: HOURS/CREDITS: 3 HR./WK.; 3 CR DATE EFFECTIVE:1/23/10 COURSE COORDINATOR: Cleary	**CATALOG DESCRIPTION** Logical deficiencies in Euclidean geometry, Euclid's parallel postulate, introduction to non-Euclidean geometry, the logical consistency of the non-Euclidean geometries, Hilbert's Axioms Suggested Text: Stahl. The Poincare Half-Plane

COURSE LEARNING OUTCOMES
Please describe below all learning outcomes of the course, and indicate the letter(s) of the corresponding Departmental Learning Outcome(s) (see list at bottom) in the column at right.

After taking this course, the student should be able to

	Contributes to Departmental Learning Outcome(s):
1. prove properties of lines, angles, and circles from the Euclidean axioms	a,c,e1,e2,f,g
2. prove properties of lines, angles and circles in non-Euclidean geometry	a,c,e1,e2,f,g
3. describe the logical consistency of geometries using models	e1,e2,f,g
4. use mathematical software to model geometric relationships	a,d
5.	
6.	
7.	
8.	

COURSE ASSESSMENT TOOLS
Please describe below all assessment tools that are used in the course.
You may also indicate the percentage that each assessment contributes to the final grade.

1. homework
2. participation and quizzes
3. exams during the semester
4. final exam
5.

DEPARTMENTAL LEARNING OUTCOMES *(to be filled out by departmental mentor)*

The mathematics department, in its varied courses, aims to teach students to

a. perform numeric and symbolic computations
b. construct and apply symbolic and graphical representations of functions
c. model real-life problems mathematically
d use technology appropriately to analyze mathematical problems
e. state (e1) and apply (e2) mathematical definitions and theorems
f. prove fundamental theorems
g. construct and present (generally in writing, but, occasionally, orally) a rigorous mathematical argument.