

**SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE SYLLABUS (*Tentative*)**

MATH 105: *Liberal Arts Mathematics: Quantitative Reasoning and Effective Thinking*

**OBJECTIVES:** To introduce students to mathematics and its role in culture.

**INTENDED FOR:** Liberal Arts Majors.

**PREREQUISITES:** High School Algebra II and plane geometry.

**TEXT:** "The Heart of Mathematics: An Invitation to Effective Thinking," by Edward B. Burger and Michael Starbird; Key College Publishing, Fourth edition, 2012.

	Weeks
Chapter 1 <i>Fun and Games</i> Mathematical thought and problem solving.	1.5
Chapter 2 <i>Number Contemplation</i> Counting, numerical patterns in nature, prime numbers, clock arithmetic, codes, irrational numbers.	2.5
Chapter 3 <i>Infinity</i> Meaning of infinity, different sizes of infinity	1.0
Chapter 4 <i>Geometric Gems</i> Pythagorean Theorem, the Golden Ratio, symmetry, Platonic solids, the shape of space and non-Euclidean geometry, the fourth dimension	4.0
Chapter 5 <i>Contortions of Space</i> Rubber sheet geometry, Moebius bands and Klein bottles	1.0
Chapter 7 <i>Risky Business</i> Brief introduction to probability, randomness, brief introduction to statistics	1.5
<i>Tests, Review and Other Additional Activities</i>	2.5

**EVALUATION**

Tests 30%

Homework, Quizzes and Class Work 35%

Book Report/Term Paper 15%

Final Exam 20%