SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE SYLLABUS (Tentative)
MATH 105 Liberal Arts Mathematics: Mathematics Applicable to Real Life Decision-Making

Objective: Introduce some fundamental mathematical decision-making methods applicable to all career disciplines as well as to aid in making personal decisions. Using a "hands on" approach, students will apply statistics, probability, algebra, and basic calculus concepts to solve various problems of everyday importance, such as investing, financing, surveying, optimization, and quality design and assessment. Some group work will be assigned.

Intended for: Liberal Arts majors requiring a mathematics course to satisfy a Gen-Ed requirement.

Prerequisites: High school mathematics including Algebra II and Geometry.

Text: No specific text is required. Students will research available campus library and internet resources. Supplemental material will be provided in class.

Calculator: A Graphing calculator is required. A TI-83 or TI-84 is preferred. Campus computer labs will also be used.

Topics
Statistical Concepts and Applications (4 Weeks)
Data collection and analysis, probability distributions, statistical inference. Projects: Descriptive and inferential statistics of a real data set, product design and quality control, opinion surveys.

Financial Modeling (5 weeks)
Present and future value, annuities, stocks and bonds, loan financing. Projects: Car financing, depreciation, resale value, loan payoff, buying and selling stocks and bonds.

Mathematics of Change (3 weeks)
Fundamental concepts of differential and integral calculus applied to business. Project: Determining rates of change and average values. Revenue, cost, profit, and return on cost analysis.

Alternative Analysis (2 weeks)
Methods for selecting the alternative that best satisfies a set of evaluation factors measured in different units and of unequal weight. Assess sensitivity to errors and weighting factors. Project: Choose the best car from a selection of alternatives given a set of diverse factors and constraints.

Evaluation:		
	Projects	20%
	Quizzes	60%
	Final Exam	20%