SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE SYLLABUS (*Tentative*)
MATH 105: *Liberal Arts Mathematics—Sustainability-Related Mathematics*

OBJECTIVES: To introduce students to mathematical modeling, computation, and statistics in the context of sustainability.

INTENDED FOR: Liberal Arts majors (particularly those with an interest in sustainability) who need a mathematics course to satisfy a General Education requirement.

PREREQUISITES: High School Algebra II.

TEXT: *Quantitative Reasoning and the Environment: Mathematical Modeling in Context*, by Greg Langkamp and Joseph Hull, 1st edition, Pearson Prentice Hall 2007, ISBN 978-0131485273.

TECHNOLOGY: A calculator is required. Students will also use Microsoft Excel (available in campus computer labs).

	No. of Weeks
Chapters 1-3: Essential Numeracy	**4**

Measurement, units, melting of the ice caps; ratios, percentages, habitat of lakes in Florida; charts, graphs, U.S. energy flows.

Chapters 11-12: Elementary Statistics	**5**

Measures of center, the five-number summary, boxplots, electric bills, phantom load; measures of spread, the normal distribution, z-scores, outliers, urban runoff.

Chapters 4-6: Function Modeling	**4**

Linear functions, fertility rates in developing countries; exponentials functions, broiler chicken production; power functions, modeling earthquakes.

Tests	**1**

EVALUATION

Homework:	15%
Projects:	30%
Exams:	35%
Final Exam:	20%