MATH 1001: Quantitative Skills and Reasoning

COURSE DESCRIPTION: This course is an alternate in Area A of the Core Curriculum and is not intended to supply sufficient algebraic background for students who intend to take Precalculus or the Calculus sequence for science majors. This course places quantitative skills and reasoning in the context of experiences that students will likely encounter. It emphasizes processing information in context from a variety of representations, understanding of both the information and the processing and understanding which conclusions can be reasonably determined.


LEARNING OUTCOMES: The student should work on some general skills that they should improve upon along the way in order to be able to carry what they learn in this course into future courses of study and future work situations. These include:

- use of appropriate mathematical terminology and notation
- counting via combinatorial methods and formulas
- construction and application of formulas and algorithms
- recognition of discrete mathematical patterns and growth processes
- translation of practical problems into mathematical models and vice versa
- appreciation of the importance of math in society, nature and the arts

TOPICS: Topics should be chosen by the instructor using these guidelines: (1) Each instructor must cover some topic out of each area (I-IV) and (2) Statistics (area IV) should be at least one quarter of the semester. The instructor can supplement these topics with others as (s)he sees fit as long as guidelines (1) and (2) are satisfied.

I. THE MATHEMATICS OF SOCIAL CHOICE.

II. MANAGEMENT SCIENCE.
5. Euler Circuits: The Circuit Comes to Town.

III. GROWTH AND SYMMETRY.
11. Symmetry: Mirror, Mirror, off the Wall…

IV. STATISTICS.