

MATH 1001 Quantitative Skills and Reasoning

This course is an alternative 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 sequences for mathematics and science majors. This course places quantitative skills and reasoning in the context of experiences that students will be likely to encounter. The course emphasizes processing information in context from a variety of representations, of both the information and the processing, and understanding which conclusions can be reasonably determined.

- A. Review Topics: Upon entering Quantitative Skills, the student is expected to possess an understanding of Introductory and Intermediate Algebra. At most 15% of class time will be spent reviewing the following topics in order to reinforce the students' understanding of them:
1. Geometry (Calculating Lengths, Areas, Perimeters, and Volumes)
 2. Ratio and Proportion
 3. Approximation (Round-off error, significance and accuracy)
 4. Percentages
 5. Relative Value
 6. Computations with Formulae
- B. Uniform Requirements: Between 70% and 90% of class time will be spent covering the following topics:
1. Sets and Set Operations
 2. Logic
 - Negations, Quantifiers, Conditional Statements, Converses
 - Inductive and Deductive Reasoning, Valid Arguments
 3. Basic Probability
 4. Data Analysis
 - Basic Descriptive Statistics (Mean, Median, Mode, Standard Deviation)
 - Correlation, Causality, and Inferences
 - Interpreting Graphical Displays
 - Sampling and Randomness
 5. Modeling from Data (Scatter Plots, Regression Lines)
 - Linear
 - Quadratic Models
 - Exponential and Logarithmic Models
- C. Optional Topics: At most 20% of the course will cover topics from:
1. Mathematics and the Arts
 2. Mathematics and Politics
 3. Mathematics and Business (networks, etc.)
 4. Mathematics of Finance

For suitable textbooks, please consult the texts spreadsheet on the ACMS website