

**Topics for Quantitative Skills and Reasoning**  
**MATH 1001**  
**Georgia Highlands College**  
**Revised August 2007**

***TOPICS***

- Sets and Set Operations
- Logic
- Equations and Inequalities
- Functions
- Linear Models
- Quadratic Models
- Exponential and Logarithmic Models
- Financial Mathematics
- Basic Probability
- Data Analysis - Basic Descriptive Statistics

***TEXTBOOK***

Thinking Mathematically, Fourth Edition, Blitzer

***SUGGESTED CONTENT COURSE***

**Chapter 1—Problem Solving and Critical Thinking**

- 1.1 Inductive and Deductive Reasoning
- 1.2 Estimation, Graphs, and Mathematical Models
- 1.3 Problem Solving

**Chapter 2—Set Theory**

- 2.1 Basic Set Concepts
- 2.2 Subsets
- 2.3 Venn Diagrams and Set Operations
- 2.4 Set Operations and Venn Diagrams with Three Sets
- 2.5 Survey Problems

**Chapter 3—Logic**

- 3.1 Statements, Negations, and Quantified Statements
- 3.2 Compound Statements and Connectives
- 3.3 Truth Tables for Negation, Conjunction, and Disjunction
- 3.4 Truth Tables for Conditional and Bi-conditional
- 3.5 Equivalent Statements, Variations of Conditional Statements, and DeMorgan's Laws
- 3.6 Arguments and Truth Tables
- 3.7 Arguments and Euler Diagrams—Optional

## **Chapter 6—Algebra: Equations and Inequalities**

- 6.1 Algebra Expressions and Formulas
- 6.2 Linear Equation in One Variable
- 6.3 Applications of Linear Equations
- 6.4 Ratio, Proportion, and Variation
- 6.5 Linear Inequalities in One Variable
- 6.6 Quadratic Equations

## **Chapter 7—Algebra: Graphs, Functions, and Linear Systems**

- 7.1 Graphing and Functions
- 7.2 Linear Functions and Their Graphs
- 7.3 Systems of Linear Equation in Two Variables
- 7.6 Approximating Reality with Nonlinear Models

## **Chapter 8—Consumer Mathematics and Financial Management**

- 8.1 Percent, Sales Tax, and Income Tax
- 8.2 Simple Interest
- 8.3 Compound Interest
- 8.4 Annuities, Stocks and Bonds—Optional
- 8.5 Installment Buying
- 8.6 Amortization and The Cost of Home Ownership—Optional

## **Chapter 10—Geometry**

- 10.4 Area and Circumference
- 10.5 Volume

## **Chapter 11—Counting Methods and Probability Theory**

- 11.1 The Fundamental Counting Principle
- 11.2 Permutations
- 11.3 Combinations
- 11.4 Fundamentals of Probability
- 11.5 Probability with the Fundamental Counting Principle, Permutations, and Combinations
- 11.6 Events Involving NOT and OR, Odds
- 11.7 Events Involving AND, Conditional Probability

## Suggested Pacing

Day 1:	1.1—1.2
Day 2:	1.3—2.1
Day 3:	2.2—2.3
Day 4:	2.4—2.5
Day 5:	Test
Day 6:	3.1—3.2
Day 7:	3.3—3.4
Day 8:	3.5—3.6
Day 9:	3.7
Day 10:	Test
Day 11:	6.1—6.2
Day 12:	6.3—6.4 4
Day 13:	6.5—6.6
Day 14:	Test
Day 15:	7.1—7.2
Day 16:	7.3
Day 17:	7.4
Day 18:	7.5
Day 19:	Test
Day 20:	8.1—8.2
Day 21:	8.3—8.4
Day 22:	10.4—10.5
Day 23:	Test
Day 24:	11.1, 11.2, 11.3
Day 25:	11.4—11.5
Day 26:	11.6
Day 27:	11.7
Day 28:	Test
Day 29:	Final Review
Day 30:	Final Review