



Math 1001 – Quantitative Reasoning

Master Syllabus and Course Content

Course Description:

Credit Hours: 3-0-3.

This course emphasizes quantitative reasoning skills needed for informed citizens to understand the world around them. Topics include logic, basic probability, data analysis, and modeling data. Students receive credit toward graduation for only one of the following courses: MATH 1001, MATH 1111, MATH 1101.

Prerequisite: None.

Corequisite: Registration for MATH 0997 is required each semester unless waived by satisfactory placement scores for MATH 1001 or successful completion of learning support mathematics requirements.

Course Learning Objectives:

- Evaluate interest formulas, such as simple interest, compound interest, and amortization formulas.
- Convert between US Customary and Metric units.
- Organize raw statistical data.
- Perform set operations between two or three sets using methods such as set notation and Venn diagrams.
- Defend the truth value of a statement.
- Relate the theories of discrete probability to counting.

Topics Covered

- Financial Computations
- Dimensional Analysis
- Set Theory
- Logic
- Combinatorics
- Probability
- Basic Statistical Analysis

Course Materials

Textbook:

Blitzer, R. (2019). *Thinking mathematically* (7th ed.). Pearson.



Technology:

- MyMathLab: <https://www.mymathlab.com>
- A scientific calculator or better.

Textbook Sections¹

Thinking Mathematically – Blitzer

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

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 the Conditional and Biconditional
- 3.5 Equivalent Statements and Variations of Conditional Statements

Chapter 8 – Personal Finance

- 8.1 Percent, Sales Tax, and Discounts
- 8.3 Simple Interest
- 8.4 Compound Interest
- 8.6 Cars

Chapter 9 – Measurement

- 9.1 Measuring Length; The Metric System
- 9.2 Measuring Area and Volume
- 9.3 Measuring Weight and Temperature

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

Chapter 12 – Statistics

- 12.1 Sampling, Frequency Distributions, and Graphs
- 12.2 Measures of Central Tendency

¹ A suggested schedule is provided at the end of this syllabus.



12.3 Measures of Dispersion
 12.6 Scatter Plots, Correlation, and Regression Lines

Required Syllabus Content

Important College Dates

Please see the appropriate academic [calendar](#) on the Georgia Highlands Website.

Required College Policies

Please see the Center for Excellence in Teaching and Learning’s faculty resources for the [required syllabus statements and policies](#).

Suggested Pearson/MyMathLab Pacing Guide

Week 1	Day 1	Cover the Syllabus	Day 2	Cover 8.1 Percent, Sales Tax, and Discounts
Week 2	Day 3	Cover 8.3 Simple Interest	Day 4	Cover 8.4 Compound Interest
Week 3	Day 5	Cover 8.6 Cars	Day 6	Cover 9.1 Measuring Length; The Metric System
Week 4	Day 7	Cover 9.2 Measuring Area and Volume	Day 8	Cover 9.3 Measuring Weight and Temperature
Week 5	Day 9	Catch Up or Review Day	Day 10	Exam 1
Week 6	Day 11	Cover 2.1 Basic Set Concepts and 2.2 Subsets	Day 12	Cover 2.3 Venn Diagrams and Set Operations
Week 7	Day 13	Cover 2.4 Set Operations and Venn Diagrams with Three Sets	Day 14	Cover 3.1 Statements, Negations, and Quantified Statements
Week 8	Day 15	Cover 3.2 Compound Statements and Connectives	Day 16	Cover 3.3 Truth Tables for Negation, Conjunction, and Disjunction and 3.4 Truth Tables for the Conditional and Biconditional
Week 9	Day 17	Cover 3.5 Equivalent Statements and Variations of Conditional Statements	Day 18	Catch Up or Review Day
Week 10	Day 19	Exam 2	Day 20	Cover 11.1 The Fundamental Counting Principle
Week 11	Day 21	Cover 11.2 Permutations and 11.3 Combinations	Day 22	Cover 11. 4 Fundamentals of Probability
Week 12	Day 23	Cover 11.5 Probability with the Fundamental Counting Principle, Permutations, and Combinations	Day 24	Catch Up or Review Day



Week 13	Day 25	Exam 3	Day 26	Cover 12.1 Sampling, Frequency Distributions, and Graphs
Week 14	Day 27	Cover 12.2 Measures of Central Tendency and 12.3 Measures of Dispersion	Day 28	Cover 12.6 Scatter Plots, Correlation, and Regression Lines
Week 15	Day 29	Catch Up or Review Day	Day 30	Exam 4

This guide is only a suggestion. No matter the order, please be sure to cover all of the required material.