**Math 1332 – College Mathematics for Liberal Arts**

**Thinking Mathematically, 6/E**

Robert F. Blitzer, Pearson

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**Catalog Description**
3 Credits (3 hrs. lec.) Intended for Non STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, financial mathematics, probability and statistics with appropriate applications. Number sense, proportional reasoning, estimation, technology, and communication should be embedded throughout the course. Additional topics may be covered.

Prerequisite: MATH 0309 or MATH 0308 or placement by testing.

**Course Learning Outcomes**
The student will:

* Apply the language and Notation of Sets.
* Determine the validity of an Argument or statement And provide Mathematical evidence. solve problems in mathematics of finance.
* Demonstrate fundamental probability/counting techniques and apply those techniques to solve problems.
* Interpret and analyze various representations of data.
* Demonstrate the ability to choose and analyze mathematical models to solve problems from real-world settings, including, but not limited to, personal finance, health literacy and civic engagement

**Book Sections**
Chapter 1. Problem Solving and Critical Thinking

**1.2 Estimation, Graphs, and Mathematical Models**

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 the Conditional and Biconditional**

**3.5 Equivalent Statements and Variations of Conditional Statements**

**3.6 Negations of Conditional Statements and De Morgan's Laws**

**3.7 Arguments and Truth Tables**

**Chapter 8. Personal Finance**

 **8.1 Percent, Sales Tax, and Discounts**

 **8.2 Income Tax**

 **8.3 Simple Interest**

**8.4 Compound Interest**

**8.5 Annuities, Methods of Saving, and Investments**

***At Least One of the Following Three Sections***

**8.6 Cars**

**8.7 The Cost of Home Ownership**

**8.8 Credit Cards**

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**

Chapter 12. Statistics

**12.1 Sampling, Frequency Distributions and Graphs**

**12.2 Measures of Central Tendency**

**12.3 Measures of Dispersion**