1. **Course Description:** This survey course is designed for liberal arts and technical students. The course provides an opportunity to acquire an appreciation of the nature of mathematics and its relation to other aspects of our culture. The course is rigorous but not rigid. Core topics include critical thinking, problem solving, number systems, number theory, ratios, proportions, quadratic equations, functions, graphs, consumer math, financial management, metric measurement, set theory, and selected topics from geometry, probability and statistics.

2. **Pre-requisites:** MATH 010 with a "C" or higher or COMPASS Algebra (not Pre-Algebra) score of 46 or higher.

3. **Required Textbook and Supplies:** Thinking Mathematically, Robert Blitzer, 3rd Edition, notebook, scientific calculator, and open mind, and creativity.

4. **Course Objectives:**
The student will demonstrate a working knowledge of the material covered in Chapters 1-13 of the textbook. A detailed list of course objectives is attached to this syllabus.

5. **Policies and procedures:**

   **Exam Policy:** Plan on attending class when exams are scheduled. If circumstances force you to miss a scheduled exam you must let me know before class. If you miss an exam without prior notification you will not be allowed to make it up. You may reach me at either number above or leave a message on my machine at home. Leaving a message with office personnel at BHS or CSI does not constitute notification of me.

   **Assignments:** Practice is a necessary part of understanding mathematics. Homework assignments will be given each week. I will grade five randomly chosen problems (2 points each) from each section. If the entire assignment is not finished you will lose points. When the assignments are returned to you in class an answer sheet will be provided on the overhead for all problems. Homework will be assigned each Wed. It is due the next Wed. in class or it must be in the office Thursday by 4:30 pm. If you have questions call me or email me at harrah@pmt.org

   **Cheating:** See 2003-2004 CSI catalog, page 16 under “Honesty”.

6. **Outcomes Assessment:**
Students will be asked to complete a student evaluation at the end of the semester. Weekly assignments, tests, and a comprehensive final exam will be used to assess how well students achieve the course objectives.
Outcomes Assessment (Cont)

As part of departmental analysis of outcomes in this course and its place in the Mathematics program, student completion of the pre-requisite, success in the current course, success in subsequent courses and student satisfaction will be reviewed by the instructor. A report containing this information will be submitted by department faculty to determine what, if any, changes can be made to improve the course in terms of content, focus, and instruction.

7. **Grading Procedure:**
   - 3 exams (65%)
   - Homework problems (5 corrected from each section, 10%)
   - Final Exam (25%)

   Grades will be determined by adding your total points earned and dividing by the total points possible. Letter grade will follow the usual 90, 80, 70, 60% scale.

8. **Aids available to you for this course:** Call or email me if you are having trouble in the course. Tutors are available in the Burley Center, check flyers for times and dates. Videos are available in the office for checkout.

9. **Disabilities:** Any student with a documented disability may be eligible for related accommodations. To determine eligibility and secure services, students should contact the coordinator of Disability Services at their first opportunity after registration for a class. CSI Student Disability Services is located on the second floor of the Taylor Building on the Twin Falls Campus, 208-732-6250 (voice) or 734-9929 (TTY) or aflannery@csi.edu
Part I – Number Theory
Math 123 – Math in Modern Society

Jan 19  Chapter 1 Problem Solving and Critical Thinking
Sect 1.1 Inductive and Deductive Reasoning
p. 10 #2, 4, 12, 22, 26, 30, 38, 43, 50, Bonus 54
Sect 1.3 Problem Solving
p. 32 #4, 8, 10, 20, 24, 30, 37, 40, 46, 48 Bonus 51-55 (1 of the 5)

Chapter 4 Number Representation and Calculation
Sect 4.1 Our Hindu-Arabic System and Early Positional Systems
p. 176 #16, 28, 36, 48, 56, Bonus 70
Sect 4.2 Number Bases in Positional Systems
p. 183 # 4, 12, 32, 42, 44, Bonus 57, 58, 60 (1 of the 3)

Jan 26  Chapter 5 Number Theory and the Real Number System
Sect 5.1 Number Theory: Prime and Composite Numbers
p. 211 #8, 32, 48, 60, 70, 74, 80, 86, 90, 92, 94, Bonus 95-101 (1 of 7)
Sect 5.2 The Integers: Order of Operations
p. 221 #84, 92, 98, 100, 104, 106, 126, Bonus 130
Sect 5.3 The Rational Numbers
p. 233 #84, 88, 90, 94, 96, 104
Sect 5.4 The Irrational Numbers
p. 241 #68, 70, 76, 78, Bonus 93-97 (1 of your choice)
Sect 5.5 Real Numbers and Their Properties
p. 249 #44, 46, 52, 54, 56,
Sect 5.6 Exponents and Scientific Notation
p. 258 #34, 46, 54, 60, 64, 80, 90, 92, 94, Bonus 115, 116

Feb 2  Chapter 6 Algebra: Equations and Inequalities
Sect 6.4 Ratio, Proportion, and Variation
p. 316 #8, 10, 14, 24, 26, 28, 34, 36, 38, 46, 48, Bonus 52
Sect 6.6 Solving Quadratic Equations
p. 338 #54, 62, 72, 74, 76, Bonus 88

Chapter 7 Algebra: Equations and Inequalities
Sect. 7.1 Graphing and Functions
p. 354 #6, 18, 32, 38, 50, 52, 54, 56, 64, 70, 78, Bonus 87
Sect. 7.2 Linear Functions and Their Graphs
p. 365 #50, 52, 60
Sect. 7.3 Quadratic Functions and Their Graphs
p. 376 #2, 38, 40, 42, 44, 48, 52, 54
Sect. 7.4 Exponential Functions
p. 382 #12, 16
Sect. 7.5 Systems of Linear Equations
p. 395 #2, 28, 56

Feb 9  Chapter 8 Consumer Mathematics and Financial Management
Sect 8.1 Percent
p. 427 #6, 16, 34, 38, 42, 48, 52, 54, 60, 62, Bonus 67
Sect 8.2 Interest
p. 439 #4, 10, 16, 22, 28, 32, 42, 44, 50, Bonus 58, 59
Sect 8.3 Installment Buying
p. 450 #2, 12, 14, 16, 20, 28, 30, Bonus 35, 36, 37
Sect 8.4 The Cost of Home Ownership
p. 460 #2, 6, 8, 12, 18, Bonus 24, 25, 26, 27
Sect 8.5 Investing in Stocks, Bonds, and Mutual Funds
p. 470 #2, 4, 8, 12, 14, 16, 18, Bonus 21, 23

Feb 16  Part I Test
Part II – Measurement and Geometry
Math 123 – Math in Modern Society

Feb 23  

**Chapter 9 Measurement**

Sect 9.1 Measuring Length; The Metric System  
p. 486 #8, 14, 22, 24, 28, 32, 42, 50, 52, 54, 56, 58, 60, 62, 64, 70, 76, Bonus 85

Sect 9.2 Measuring Area and Volume  
p. 494 #10, 14, 18, 22, 28, 32, 34, 38, 40, 42, 44, 46, 50, 58, Bonus 63

Sect 9.3 Measuring Weight and Temperature  
p. 501 #4, 8, 14, 16, 18, 24, 26, 32, 38, 44, 46, 48, 50, 52, 54, 56, 58, 62, 66, 68, 74, Bonus 81

Mar 2  

**Chapter 10 Geometry**

Sect 10.1 Points, Lines, Planes, and Angles  
p. 513 #4, 8, 10, 12, 36, 38, 40, 42, 48, 50, Bonus 56, 57

Sect 10.2 Triangles  
p. 523 #6, 12, 20, 24, 26, 28, 34, 44, Bonus 48, 49

Sect 10.3 Polygons, Quadrilaterals, and Perimeter  
p. 529 #6, 8, 10, 22, 30, 34, 36, 38, 40, 52, Bonus 53

Mar 9  

Sect 10.4 Area and Circumference  
p. 540 #2, 8, 12, 16, 18, 24, 28, 32, 36, 44

Sect 10.5 Volume  
p. 549 #2, 8, 10, 18, 26, 28, 30, 36, 40, Bonus 44

Supplementary Exercises - Scaling Factors

Sect 10.6 Right Triangle Trigonometry  
p. 557 #4, 12, 22, 24, 30, 32, 36, 38, 45

Mar 16  

Sect 10.7 Beyond Euclidean Geometry  
p. 568 #6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 34, 36, 38, Bonus 25, 42, 44

**Chapter 13 Mathematical Systems**

Sect 13.2 Rotational Symmetry, Groups, and Clock Arithmetic  
p. 751 #2, 4, 28, 34, 38, 48, 50, Bonus 61

Supplementary Exercises - Rotations

Mar 23  

Spring Break

Mar 30  

Part II Test
Part III – Probability and Statistics
Math 123 – Math in Modern Society

Apr 6  Chapter 11 Counting Methods and Probability Theory
  Sect 11.1 The Fundamental Counting Principle
  p. 585  #4, 6, 8, 10, 12, 14, 20, 22, 26, Bonus 28
  Sect 11.2 Permutations
  p. 592  #4, 10, 18, 30, 36, 42, 44, 46, 52, 56
  Sect 11.3 Combinations
  p. 599  #2, 4, 6, 8, 10, 22, 28, 30, 34, 40, 42, 48

Apr 13
  Sect 11.4 Fundamentals of Probability
  p. 607  #8, 16, 22, 32, 38, 46, 50, 52, 58, 66, 70, 74
  Sect 11.5 Probability with the FCP, Permutations, and Combinations
  p. 615  #6, 10, 14, 18, 26, Bonus 27

Apr 20  Chapter 12 Mathematical Systems
  Sect 12.1 Sampling, Frequency Distributions, and Graphs
  p. 665  #2, 6, 8, 10, 16, 18, 20, 22, 24, 28, 34, 36, Bonus 38, 39, 41
  Sect 12.2 Measures of Central Tendency
  p. 681  #12, 24, 36, 48, 54, 56, 60, 64, 70, Bonus 76
  Sect 12.3 Measures of Dispersion
  p. 691  #8, 12, 36, 38, 40, 42, Bonus 52

Apr 27
  Sect 12.4 The Normal Distribution
  p. 708  #4, 14, 28, 54, 58, 88, 98, 108, 110, 114, Bonus 116
  Sect 12.5 Scatter Plots, Correlation, and Regression Lines
  p. 720  #6, 10, 12, 14, 16, 18, 20, 22, 24, 26, 30, 52, 56, 58, Bonus 62, 63

May 4    Part III Test

May 11  Final Test