

Math 1351
Mathematics for Teachers II

Western Texas College

- I. Basic Course Information
 - A. Course Description: This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the concepts of geometry, measurement, probability, and statistics with an emphasis on problem solving and critical thinking.
 - B. Any required prerequisites: Students must make a C or better in Math 1314(College Algebra).
- II. Student Learning Outcomes
 - A. Apply fundamental terms of geometry such as points, lines, and planes to describe two and three dimensional figures.
 - B. Make and test conjectures about figures and geometric relationships.
 - C. Use a variety of methods to identify and justify congruency and similarity of geometric objects.
 - D. Perform geometric transformations.
 - E. Demonstrate fundamental probability techniques and apply those techniques to solve problems.
 - F. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
 - G. Recognize, examine, and utilize the basic principles of describing and presenting data.
 - H. Perform measurement processes and explain the concept of a unit of measurement.
 - I. Develop and use formulas for the perimeter, area, and volume for a variety of figures.
- III. Testing Requirements
 - A. Students are not allowed to use any resources other than a calculator and scratch paper when taking the final exam. The final exam must be proctored.
- IV. Major Course Requirements
 - A. Major Requirement – There are 3 modules. There is homework for each section, a quiz for each chapter and a combined chapter test per module.
 - B. Major Requirement - There is a lesson plan and project for each module.
 - C. Grading
 - Percentages Tests
 - 15
 - %
 - Homework..... 12.5%
 - Quizzes..... 12.5%
 - Final Exam... ..35%
 - Lesson Plan 12.5%
 - Project..... 12.5%
 - D. Grade A = 90 – 100, B = 80 – 89, C = 70 – 79, D = 60 – 69, F = 59 and below.
- v. Information on Books and Other Course Materials
 - A. Book: Optional: A Problem Solving Approach to Mathematics for Elementary Teachers, 13th edition, Billstein. ISBN: 9780135183885
 - B. Access Code: A MyMathLab access code is required. Comes with eText.

ISBN: 9780135909751

VI. Other Policies, Procedures and important dates: Please refer to the WTC Course [Catalog](#) for the following:

- A. Campus Calendar
- B. Final exam schedule
- C. How to drop a class
- D. Withdrawal information
- E. Student Conduct/Academic Integrity
- F. Students with disabilities

vii. Planned Course of Study

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| | Sections covered and concepts |
| Module 1 | 9.1 Determining Probabilities |
| | 9.2 Multistage Experiments and Modeling Games |
| | 9.3 Simulations and Applications of Probability |
| | 9.4 Counting and Techniques in Probability |
| | 10.1 Designing experiments/Collecting Data |
| | 10.2 Displaying Data: Part I |
| | 10.3 Displaying Data: Part II |
| | 10.4 Measures of Central Tendency and Variation |
| | Module 1 Test |
| | Module 1 Project |
| | Module 1 Lesson Plan |
| Module 2 | 11.1 Basic Notion |
| | 11.2 Curves, Polygons, and Symmetry |
| | 11.3 More About Angles |
| | 11.4 Geometry in Three Dimensions |
| | 12.1 Congruence Through Constructions |
| | 12.2 Additional Congruence Theorems |
| | 12.3 Additional Constructions |
| | 12.4 Similar Triangles and Other Similar Figures |
| | Module 2 Test |
| | Module 2 Project |
| | Module 2 Lesson Plan |
| Module 3 | 13.1 Linear Measure |
| | 13.2 Areas of Polygons and Circles |
| | 13.3 The Pythagorean Theorem, Distance Formula and Equation of a Circle |
| | 13.4 Surface Area |
| | 13.5 Volume and Mass |
| | 14.1 Translations, Rotations, and Tessellations |
| | 14.2 Reflections and Glide Reflections |
| | 14.3 Dilations |
| | Module 3 Test |
| | Module 3 Project |
| | Module 3 Lesson Plan |
| | Final Exam |

Last modified: May 26, 2020