Course Information

Course Description
Sets and relations, the system of whole numbers, numeration systems, the system of integers, elementary number theory, fractions and rational numbers, decimals and real numbers. Lab activities will include making and using math manipulatives, comparing different problem solving techniques, making interdisciplinary connections, and experiencing math concepts through auditory, visual, and kinesthetic approaches to inquiry-based activities.

Prerequisite and Co-requisite Courses
Mathematics 1324 or equivalent.

Student Learning Outcomes
Upon completion of this course, students will be able to:

1. Students will gain factual knowledge including the mathematical terminology, classifications, and methods used in this course. Students will use the
vocabulary, symbolism, structure, reasoning, and procedures that are needed to teach the mathematical content for grades K-8. See course content for more details.

2. Students will learn the fundamental principles, generalizations, and theories covered in this course. Students will demonstrate understanding of the conservation of area and volume, non-standard and standard measurement, proportionality, similarity, congruence, and basic probability.

3. Students will learn to apply course material. Students will be able to make connections between concepts and also apply knowledge in a new and different setting. In particular, students will learn how to translate course content into K-8 grade appropriate lessons.

4. Students will develop specific skills, competencies, and points of view needed by K-8 mathematics teachers. In addition to learning the mathematical content of this course, students will:
   - become familiar with the Texas Essential Knowledge and Skills (TEKS) and the National Council of Teachers of Mathematics (NCTM) Standards;
   - learn multiple approaches to the teaching of mathematics;
   - use manipulatives to model mathematical concepts;
   - develop communications skills (oral, written, and listening), knowledge of appropriate vocabulary, and various questioning strategies;
   - learn how to use resources (such as the Internet and NCTM journals) in planning classroom activities. Students will gain a broader understanding and appreciation for mathematics.

**Course Delivery**
This is a face-to-face course with learning resources and supplemental materials posted in Blackboard.

**Required Texts and Materials**
_A Problem Solving Approach to Mathematics for Elementary School Teachers_, 13th Edition by Billstein, Libeskind, & Lott is the required text but you are not required to have a physical copy as an etext is part of the MyMathLab course.

Math 1350 (Fall 2019-Summer 2020) Lab Manual

**Technology Requirements**
To successfully complete this course, students need to A Problem Solving Approach to Mathematics for Elementary School Teachers Access Card through Pearson’s MyMathLab. There is a link in the Blackboard course which will take you to the site to purchase the access.
Communication
Faculty will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

Grading

Evaluation and Grades
Course grades will be determined as indicated in the table below.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent of Total Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily grades and homework</td>
<td>20</td>
</tr>
<tr>
<td>Test 1</td>
<td>15</td>
</tr>
<tr>
<td>Test 2</td>
<td>15</td>
</tr>
<tr>
<td>Test 3</td>
<td>15</td>
</tr>
<tr>
<td>Test 4</td>
<td>15</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Attendance
Attendance will be taken daily. If you are absent, you will not receive credit for in-class activities for that day. If you arrive after attendance has been taken, you should check with me at the end of class to see that I updated your attendance status.

Grading System
Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:
- A = 89.5 - 100 points
- B = 79.5 – 89.5 points
- C = 69.5 – 79.5 points
- D = 59.5 – 69.5 points
- F = 0-59.5 points

Assignment and Activity Descriptions

Tests
There will be four tests and a comprehensive final exam. The final exam will be Tuesday, May 5, from 10:30 am to 12:30 pm. If you know that you are going to
miss a test, make arrangements to take the test prior to the tests being returned to students. If such arrangements are not made, then your final exam will be used to replace it. If you do not miss any tests, your final exam may be used to replace your lowest test score should it be to your benefit.

**In-class Activities**
Class activities are an essential part of this course. As such, a daily grade is given for your participation. Those who are not present for class will receive a grade of zero for those activities. Students who are present but spend the class time texting, sleeping or are engaged in other off task behavior will also receive a grade of zero for those activities.

**Paper Homework and Quizzes**
Assignments will be made from the lab manual. If you need additional paper to complete the assignment please use standard sized paper and staple the pages, in sequential order, in the top left corner. Box in your answers and show your work. No work = no credit. Assignment should be folded in half lengthwise with your name clearly printed on the outside. Under your name should be the name of the assignment. Assignments are due at the beginning of class and will not be accepted after I have gathered them from the table. If you are going to miss class or be late, send your work with another student or bring it by my office before class.

**Online Homework**
We will be using an online program called MyMathLab for part of the homework this semester. The course is linked through Blackboard. The due dates and times are associated with the assignments in MyMathLab.

**Centers**
Centers are hands-on activities that are used to introduce new concepts, enrich or reinforce concepts that have already been taught, or help children make connections between different ideas. Centers in this course will usually be done in small groups with little or no teacher assistance. I plan to set up centers for you to do during the semester. It will be your responsibility to do these centers outside of class time. Most will require you to do them in our classroom because there will be instructions and materials provided. Times that are available for
access to the classroom will be announced soon. You will need to purchase on piece of colored poster board for one of the activities.

Portfolio
A portfolio is a collection of various things for about a student. It serves many purposes: to teach organizational skills, to keep track of assignments, to use as a study guide, to create a resource fil for future use, and as an assessment of mastery. You will create a portfolio for this course using a three inch, three-ring binder and a set of eight tabbed dividers. The tabs are to be labeled: Assignments, Test 1 material, Test 2 material, Test 3 material, Test 4 material, Journal Articles, Tests, and Lab Manual. You will also create a title page that will include: MATH 1350, Mathematics for Elementary/Middle School Teachers I, Fall 2019, and your name. The portfolio should be with you in class every day.

General Policies Related to This Course
All students are required to follow the policies and procedures presented in these documents:

• Angelo State University Student Handbook¹
• Angelo State University Catalog²

Academic Integrity
Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university’s Statement of Academic Integrity.³

Accommodations for Students with Disabilities
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and
authorizing requests for reasonable accommodations based on a disability. It is the
student’s responsibility to initiate such a request by contacting an employee of the
Office of Student Affairs, in the Houston Harte University Center, Room 112, or
contacting the department via email at ADA@angelo.edu. For more information about
the application process and requirements, visit the Student Disability Services website. The employee charged with the responsibility of reviewing and authorizing
accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy
It is policy that incomplete grades be reserved for student illness or personal misfortune.
Please contact faculty if you have serious illness or a personal misfortune that would
keep you from completing course work. Documentation may be required. See ASU
Operating Policy 10.11 Grading Procedures for more information.

Plagiarism
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student
Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc.,
and passing it off as one’s own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without
quotation marks and the source of the quotation. It is expected that you will summarize
or paraphrase ideas giving appropriate credit to the source both in the body of your
paper and the reference list.

Papers are subject to be evaluated for originality. Resources to help you understand
this policy better are available at the ASU Writing Center.

Student Absence for Observance of Religious Holy Days
A student who intends to observe a religious holy day should make that intention known
in writing to the instructor prior to the absence. See ASU Operating Policy 10.19
Student Absence for Observance of Religious Holy Day for more information.
Title IX at Angelo State University

The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU’s Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.
# Course Schedule

The table below indicates the expected schedule of sections that will be discussed on the date listed. However, changes to this schedule may occur and will be posted in Blackboard announcements.

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/14</td>
<td>Syllabus, class expectations, problem solving</td>
</tr>
<tr>
<td>2</td>
<td>1/16</td>
<td>Problem solving, inductive and deductive reasoning</td>
</tr>
<tr>
<td>3</td>
<td>1/21</td>
<td>Problem solving, sequences</td>
</tr>
<tr>
<td>4</td>
<td>1/23</td>
<td>Sequences and patterns</td>
</tr>
<tr>
<td>5</td>
<td>1/28</td>
<td>Tactile equations, patterns, sets</td>
</tr>
<tr>
<td>6</td>
<td>1/30</td>
<td>Venn Diagrams, sets</td>
</tr>
<tr>
<td>7</td>
<td>2/4</td>
<td>Intro to numeration, review</td>
</tr>
<tr>
<td>8</td>
<td>2/6</td>
<td>Test 1</td>
</tr>
<tr>
<td>9</td>
<td>2/11</td>
<td>Rounding, Numeration systems, addition models and properties</td>
</tr>
<tr>
<td>10</td>
<td>2/13</td>
<td>Numeration systems, subtraction and multiplication models and properties</td>
</tr>
<tr>
<td>11</td>
<td>2/18</td>
<td>Numeration systems, division models and properties</td>
</tr>
<tr>
<td>12</td>
<td>2/20</td>
<td>Review categories and properties, order of operations, base 5</td>
</tr>
<tr>
<td>13</td>
<td>2/25</td>
<td>Base 5/Base 10, numeration review</td>
</tr>
<tr>
<td>14</td>
<td>2/27</td>
<td>Intro to number theory, review</td>
</tr>
<tr>
<td>15</td>
<td>3/3</td>
<td>Test 2</td>
</tr>
<tr>
<td>16</td>
<td>3/5</td>
<td>Addition/subtraction algorithms, number theory</td>
</tr>
<tr>
<td>17</td>
<td>3/17</td>
<td>Multiplication/division algorithms, prime factorization, divisibility</td>
</tr>
<tr>
<td>18</td>
<td>3/19</td>
<td>Prime numbers, prime factor test, GCF, LCM</td>
</tr>
<tr>
<td>19</td>
<td>3/24</td>
<td>GCF, LCM, Fraction intro</td>
</tr>
<tr>
<td>20</td>
<td>3/26</td>
<td>Fractions with pictures, Cuisenaire rods, pattern blocks, and counters</td>
</tr>
<tr>
<td>21</td>
<td>3/31</td>
<td>Fraction strips, traditional fraction algorithms, review</td>
</tr>
<tr>
<td>22</td>
<td>4/2</td>
<td>Test 3</td>
</tr>
<tr>
<td>23</td>
<td>4/7</td>
<td>Fractions, decimal intro</td>
</tr>
<tr>
<td>24</td>
<td>4/9</td>
<td>Decimals</td>
</tr>
<tr>
<td>25</td>
<td>4/14</td>
<td>Fraction and decimal conversions</td>
</tr>
<tr>
<td>26</td>
<td>4/16</td>
<td>Real numbers,</td>
</tr>
<tr>
<td>27</td>
<td>4/21</td>
<td>Integers, review</td>
</tr>
<tr>
<td>28</td>
<td>4/23</td>
<td>Test 4</td>
</tr>
<tr>
<td>29</td>
<td>4/28</td>
<td>Integers</td>
</tr>
<tr>
<td>30</td>
<td>4/30</td>
<td>Review for the Final Exam</td>
</tr>
<tr>
<td>31</td>
<td>5/5</td>
<td>Final Exam 10:30 – 12:30 pm</td>
</tr>
</tbody>
</table>

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1. [https://www.angelo.edu/student-handbook/](https://www.angelo.edu/student-handbook/)
2. [https://www.angelo.edu/catalogs/](https://www.angelo.edu/catalogs/)
4. [https://www.angelo.edu/services/disability-services/](https://www.angelo.edu/services/disability-services/)
5 https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
6 https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
7 https://www.angelo.edu/dept/writing_center/academic_honesty.php
8 https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of