Math 1351
Mathematics for Elementary/Middle School Teachers I
FALL 2017 Syllabus

Disclaimer:
This syllabus is current and accurate as of its posting date, but will not be updated. For the most complete and up-to-date course information, contact the instructor.

Instructor: Mrs. Ashlee Fuchs
Office: MCS 220E
Office Phone: (325) 486-5433
E-mail: Ashlee.Fuchs@angelo.edu

Office Hours
M 2:00pm-4:00pm
T 9:00am-11:00am
W 2:00pm-4:00pm
R 9:00am-11:00am
F 8:00am-9:00am; 12:15pm-1:15pm
*Or by appointment

Time/Location:
Class meets MW
11:00am-12:45pm
MCS 211

Expectations of Students
As a future educator, in this class you will be expected to:
• Attend class consistently and in a timely manner.
• Foster a learning environment by practicing common courtesy at all times. Be respectful of your classmates and work cooperatively and constructively during group activities.
• Pay attention fully during class – remove distractions by turning off cell phones and other electronics.
• Complete each assignment by the specified due date. Homework is due at the beginning of class.
• Maintain academic honesty.
  o Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at http://www.angelo.edu/forms/pdf/Honor_Code.pdf
• Work outside of class on homework and review materials to master concepts and adequately prepare for exams. Seek out extra practice when needed.
• Utilize, as needed, all available study-aid options (including visiting the math lab, meeting with the instructor, etc.) to resolve questions.

Grading
• Assignments and grades will be posted on Blackboard.
• Throughout the semester there will be: homework, in-class activities, journal assignments, portfolio checks, etc. These will all be combined to form the daily average.
• I use the standard: 100 – 90 A, 89 – 80 B, 79 – 70 C, 69 – 60 D, below 60 F. This class is part of the coursework for your major, so a grade of C or better is required to pass.

Grading Scheme
Daily average……………………..20% of the semester average
Each regular exam (3)…………….20% of the semester average
Final exam…………………………..20% of the semester average

Attendance Policy
• Attendance will be taken daily. If you are tardy, it is your responsibility to let me know after class so I can change my records. Do not make tardiness a habit. Also, it is your responsibility to check for missed assignments on Blackboard when you are absent.
  0-4 absences………………………No change to average
  5 + Absences ……………………..3 points will be subtracted from your final average for each absence
Exams
- We will have three regular exams and a comprehensive final exam.
- There will be no make-up exams. If you know that you are going to miss an exam, you need to make arrangements with me beforehand.
- If it is to your benefit, your final exam score will replace the lowest of your three regular exam scores at the end of the semester.
- The comprehensive final exam will be Tuesday, December 12th from 10:30am-12:30pm.

In-class activities
- We will be doing many in-class activities and a daily grade will be recorded for active participation. Reading about an activity is very different from experiencing an activity, so it is imperative that you make every effort to attend class.
- Most of these activities will involve the use of math manipulatives and will be done in small groups.
- Besides learning mathematical content in an inquiry-based environment, these activities will focus on learning how to communicate your thinking and how to listen to your peers.
- Hopefully, they will give you a deeper understanding of the content and provide ideas on how to teach math to your future students.
- NOTE: If you are caught texting, sleeping, or working on material for another class, you will receive a participation grade of zero for that day.

Homework
- All homework and quizzes should be worked with a #2 pencil and folded in half length-wise with your name and assignment number on the outside.
- Please use standard size white notebook paper (or unlined bond) for homework.
- If you have more than one piece of paper, staple your papers together in the upper left-hand corner.
- Box in your answers.
- Except for true/false and completion problems, show your work in an organized readable form.
- When I grade your tests, I will grade your work as well as your answers. A general rule is to show as much work on your papers as I show on similar problems in class.
- If you hand in homework with no work shown, you will receive a grade of 0.
- Homework assignments are due promptly at the beginning of the class period. If you come in tardy, your homework will be counted as late.

Daily Average Notes
- Six daily grades will be dropped before computing your daily average. This is the leeway you are given to allow for unavoidable absences. You need to think of this as your insurance in case you get sick or have a family emergency.
- If you know you are going to be absent, bring your homework by my office before class or send it with a classmate.
- If you are absent, it is your responsibility to look on Blackboard and find out what homework was assigned. I would also appreciate it if you contact me to discuss your absences.

Centers
- In a K-8 classroom, centers are hands-on activities that introduce new concepts, enrich or reinforce concepts that have already been taught, or help children make connections between different ideas.
- Centers are usually 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 (if not all) 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.
Portfolios

- A portfolio is a collection of various things for and about each student. It has many purposes: to teach organizational skills, to keep track of assignments, to use as a study guide, to create a resource file for future use, etc.
- Please bring a 3-ring binder and a package of 8 dividers to the 2nd class period so that we can put your portfolio together.
- Your divider tabs need to be labeled:
  - Assignments, Test 1 material, Test 2 material, Test 3 material, NCTM journals, tests, lab manual, and miscellaneous.
- You also need to make a title page that includes:
  - MATH 1351, Mathematics for Elementary/Middle School Teachers II, Fall 2016, and your name.
- You may leave your textbook at home, but bring your portfolio to class every day.

Prerequisites

1) College Algebra (MATH 1314/MATH 1302) OR Finite Mathematics (MATH 1324) with a grade of C or better
2) Mathematics for Elementary/Middle School Teachers I (MATH 1350/MATH 1341) with a grade of C or better

Required text/lab manual

The MATH 1351 lab manual (only available at the ASU Bookstore)

Miscellaneous Supplies

Stuff to buy: Notebook paper
- One 3-inch 3-ring binder
- One packet of 8 tabs
- Protractor, compass, & ruler

Math Lab

There is a free math lab where you can do your homework and get help with it. It is located on the third floor of the library in room C302. Here’s the schedule:

- **Monday – Thursday:** 9:00am – 8:00pm
- **Friday:** 9:00am – 12:00pm
- **Sunday:** 4:00pm – 8:00 pm (beginning 09/10/17)

University Policies

- **Drop Date – November 3, 2017** is the last day to drop a course with a W or withdraw from ASU.

- **Student Disability Services**
  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.

  The Office of Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student’s responsibility to initiate such a request by contacting:

  Dallas Swafford
  Director of Student Disability Services
  Office of Student Affairs
  325-942-2047
dallas.swafford@angelo.edu
Title IX
Angelo State University is committed to the safety and security of all students. If you or someone you know experience sexual harassment, sexual assault, domestic or dating violence, stalking, or discrimination, you may contact ASU’s Title IX Coordinator:

Michelle Boone
Director of Title IX Compliance
325-486-6357
michelle.boone@angelo.edu

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. (http://www.angelo.edu/opmanual/ -- OP 10.19)

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.

Student Conduct Policies

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 Statement of Academic Integrity

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 via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.

Copyright Policy

Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

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

- Angelo State University Student Handbook
- Angelo State University Catalog
Student Learning Outcomes

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. Besides 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.

5. Students will gain a broader understanding and appreciation for mathematics.

Course Content

The following chapters from the textbook are covered:

7. Decimals, Percents, and Real Numbers. ratio and proportion; percents. (The rest of this chapter is covered in Math 1350.)

8. Introductory Geometry. beginning geometry; polygons; triangles, quadrilaterals, and circles; angle measures of polygons; three-dimensional geometry; viewing and drawing solid figures.

9. Congruence, Symmetry, and Similarity. transformations and congruence; applications of transformations; constructions and congruence; symmetry; similarity and dilations.

10. Measurement. systems of measurement; perimeter and area; areas of quadrilaterals, triangles, and circles; the Pythagorean theorem; surface area; volume; lengths, areas, and volumes of similar figures.

12. Statistics. observational studies and experiments; statistical graphs and tables; misleading graphs and statistics; mode, median, and mean; measuring spread; standardized test scores. (as time permits)

13. Probability. experimental and theoretical probability; probability rules and simulations.
Course Schedule

***The schedule listed below is tentative and subject to change and adaptation.
For current updated information, contact the instructor.

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Day</th>
<th>Date</th>
<th>Material</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>T</td>
<td>08/29</td>
<td>Syllabus, class expectations, ratio and proportion</td>
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<tr>
<td>2</td>
<td>R</td>
<td>08/31</td>
<td>Ratio and proportion</td>
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<tr>
<td>Week 2</td>
<td>3</td>
<td>09/05</td>
<td>Ratio and proportion, scale drawing</td>
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<tr>
<td>4</td>
<td>R</td>
<td>09/07</td>
<td>Conversions, percent</td>
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<tr>
<td>Week 3</td>
<td>5</td>
<td>09/12</td>
<td>Percent, basic geometry</td>
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<tr>
<td>6</td>
<td>R</td>
<td>09/14</td>
<td>Percent problems, basic geometry</td>
</tr>
<tr>
<td>Week 4</td>
<td>7</td>
<td>09/19</td>
<td>Basic geometry, triangles</td>
</tr>
<tr>
<td>8</td>
<td>R</td>
<td>09/21</td>
<td>Planar figures</td>
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<tr>
<td>Week 5</td>
<td>9</td>
<td>09/26</td>
<td>TEST 1</td>
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<tr>
<td>10</td>
<td>R</td>
<td>09/28</td>
<td>Polygons</td>
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<tr>
<td>Week 6</td>
<td>11</td>
<td>10/03</td>
<td>Quadrilaterals</td>
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<tr>
<td>12</td>
<td>R</td>
<td>10/05</td>
<td>Quadrilaterals, circles, space figures</td>
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<tr>
<td>Week 7</td>
<td>13</td>
<td>10/10</td>
<td>Space figures, nets</td>
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<tr>
<td>14</td>
<td>R</td>
<td>10/12</td>
<td>Space figures, 3-D drawings, symmetry</td>
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<tr>
<td>Week 8</td>
<td>15</td>
<td>10/17</td>
<td>Symmetry, transformations</td>
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<tr>
<td>16</td>
<td>R</td>
<td>10/19</td>
<td>Transformations, similar figures</td>
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<td>Week 9</td>
<td>17</td>
<td>10/24</td>
<td>Dilations, tessellations</td>
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<tr>
<td>18</td>
<td>R</td>
<td>10/26</td>
<td>TEST 2</td>
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<tr>
<td>Week 10</td>
<td>19</td>
<td>10/31</td>
<td>Tangrams, measurement intro</td>
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<tr>
<td>20</td>
<td>R</td>
<td>11/02</td>
<td>Measurement, geoboards</td>
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<tr>
<td>Week 11</td>
<td>21</td>
<td>11/07</td>
<td>Area and Perimeter, circumference</td>
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<td>22</td>
<td>R</td>
<td>11/09</td>
<td>Pythagorean Thm, Composite Shapes, alternate area formulas</td>
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<tr>
<td>Week 12</td>
<td>23</td>
<td>11/14</td>
<td>Surface area / Volume</td>
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<tr>
<td>24</td>
<td>R</td>
<td>11/16</td>
<td>Surface area/ volume, scale factor</td>
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<tr>
<td>Week 13</td>
<td>25</td>
<td>11/21</td>
<td>Surface Area/Volume, Geometry review</td>
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<tr>
<td>Week 14</td>
<td>26</td>
<td>11/28</td>
<td>Statistics, review</td>
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<tr>
<td>27</td>
<td>R</td>
<td>11/30</td>
<td>TEST 3</td>
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<tr>
<td>Week 15</td>
<td>28</td>
<td>12/05</td>
<td>Statistics &amp; Probability</td>
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<tr>
<td>29</td>
<td>R</td>
<td>12/07</td>
<td>Statistics &amp; Probability/Final Review</td>
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<td>T</td>
<td>12/12</td>
<td>FINAL EXAM – 10:30am-12:30pm</td>
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