

Math 1350.010 and 01Z

Mathematics for Elementary/Middle School Teachers I



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: Paula Koca

Email: paula.koca@angelo.edu

Phone: 325-486-5437

Office: MCS 220L

Office Hours:

Monday: 11:45am – 2pm

Tuesday: 11:45am – 2pm

Wednesday: 11:45am – 2pm

Thursday: 11:45am – 2pm

Friday: 11:45am – 12:45pm

Note: When contacting me via email or phone, allow 24 hours for a response. I do not make it a habit to check email from home.

Course Information

Prerequisite Courses

College Algebra (Math1314) or Finite Mathematics (Math 1324) with a grade of C or better.

Course Content

The following chapters from the textbook are covered:

- Chapter 1: An Introduction to Problem Solving
 - Inductive and deductive reasoning; patterns; problem solving
- Chapter 2: Introduction to Logic and Sets
 - Sets; operations on sets; Venn diagrams

- Chapter 3: Numeration Systems and Whole Number Operations
 - Numeration systems; addition, subtraction, multiplication, and division of whole numbers; properties, algorithms, mental computation, and estimation of whole numbers; place value and algorithms in other bases
- Chapter 4: Number Theory
 - Factors; divisibility; prime and composite numbers; common factors and multiplies
- Chapter 5: Integers
 - Addition, subtraction, multiplication, and division of integers; properties of integer operations
- Chapter 6: Rational Numbers and Proportional Reasoning
 - Rational numbers; addition, subtraction, multiplication, and division of rational numbers; properties, estimation, and error patterns with rational numbers.
- Chapter 7: Decimals, Percents, and Real Numbers
 - Place value, estimation, and mental computation with decimals; decimal arithmetic and error patterns; rational, irrational, and real numbers.

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. 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.

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

Course Delivery

This course will be delivered in a face-to-face format with all exams being taken in person or at an approved testing center.

When you are not in the physical class, you will attend live remote sessions at the same time as our scheduled course. You will also be expected to complete coursework via [Blackboard](#).¹

Please refer to this [Health and Safety web page](#)² for updated information about campus guidelines as they relate to the COVID-19 pandemic.

Required Texts and Materials

- Notebook paper
- Markers or Colored Pencils
- Ruler
- Scissors
- Tape or glue stick
- One 3-inch 3-ring binder
- One packet of 8 tabs
- 1 piece of colored poster board
- The textbook (*A Problem Solving Approach to Mathematics for Elementary School Teachers*, 13th Edition by Billstein, Boschmans, Libeskind, & Lott)
- The 1350 lab manual (only available at the ASU Bookstore)

Technology Requirements

For this class, you must have access to a computer, printer, webcam, and scanner.

Throughout the semester we will be using Blackboard Collaborate (which requires a web cam), MyMathLab, and Gradescope.

Grading

Evaluation and Grades

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

Assessment	Percent of Total Grade
Daily grades and homework	20%
Each Regular Exam (4)	20%
Total	100%

Grading System

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes. Assignments and grades will be posted on Blackboard. Throughout the semester there will be homework, in-class activities, internet assignments, etc. These will all be combined to form the daily average.

The following grading scale is in use for this course:

A = 90.00-100 points

B = 80.00-89.99 points

C = 70.00-79.99 points

D = 60.00-69.99 points

F = 0-59.99 points (Grades are not rounded up)

This class is part of the coursework for your major, so a grade of C or better is required to pass.

Portfolio

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, Exam 1 material, Exam 2 material, Exam 3 material, Exam 4 material, NCTM journals, tests, and lab manual. You also need to make a title page that includes: MATH 1350, Mathematics for Elementary/Middle School Teachers I, Summer I 2021, and your name. You may leave your textbook at home, but bring your portfolio to class every day.

Attendance Policy

0-4 Absences: No change to average

5 + Absences: 3 points will be subtracted from your final average **for each absence**

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.

Drop Date

The last day to drop a class is Monday, June 28, 2021.

Major Course Requirements

Exams

We will have four exams. (The final exam will be Friday, 7/9, from 8am – 10am). I do not give make-up exams.

In-Class Activities

We will be doing many in-class activities and I usually take a daily grade for your 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 also give you ideas on how to teach math to children.

Classroom Behavior

I expect students to be respectful of all the members of our class. Please refrain from any avoidable distracting behavior such as talking during the lecture, getting off-task during the activity time, leaving your cell phone on, text messaging, etc. If you are caught texting, sleeping, or otherwise off task you will receive a participation grade of zero for that day.

Paper Homework

All paper homework will be scanned and uploaded to Gradescope, an online platform. More information regarding Gradescope is available in Blackboard. Please use standard size white notebook paper (line or unlined) for homework. Box in your answers and show all your work in an organized readable format. A paper with no work to support answers will receive a grade of 0.

Online Homework

We will be using an online program called MyMathLab for part of the homework this semester. To access MyMathLab, login to Blackboard and select this course. Next, select the tab “MyMathLab HW”. Then, click the link to begin registration and related homework for MyMathLab. You may access MML anywhere internet is available. Homework is an important part of this class. If you wish to be successful in this class, you must complete the homework.

No late homework will be accepted. However, the six lowest homework grades will be dropped to replace homework missed due to illness or emergency. Save them for when you are ill. Once they are used, any missing homework for any reason will be a zero.

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. Math Lab Hours can be found at this location on the Angelo State University website: http://www.angelo.edu/dept/mathematics/lab_hours.php

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](#)³
- [Angelo State University Catalog](#)⁴

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](#).⁵

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](#).⁶ 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](#)⁷ for more information.

Plagiarism

Plagiarism is a serious topic covered in ASU's [Academic Integrity policy](#)⁸ 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](#).⁹

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](#)¹⁰ 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 Miller, J.D.
Special Assistant to the President and Title IX Coordinator
Mayer Administration Building, Room 210
325-486-6357
michelle.boone@angelo.edu

You may also [file a report online](#)¹¹ 24/7.

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, visit the [Title IX website](#).¹²

Required Use of Masks/Facial Coverings by Students

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory [Facial Covering Policy](#)¹³ to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

Course Schedule

Day #	Day	Date	Subject Matter
1	M	1/25	Syllabus, Class Expectations, Problem Solving, Inductive/Deductive Reasoning
2	T	1/27	Number Tricks, Working Backwards, What's Next
3	W	2/1	Sequences, Cuisenaire Rods, Intro to Sets
4	R	2/3	Sequences, More on Sets
5	F	2/8	Venn Diagrams, Intro to Numeration, Review
6	M	2/10	Exam 1
7	T	2/15	Rounding, Numeration systems, addition models and properties
8	W	2/17	Numeration systems, subtraction and multiplication models and properties
9	R	2/22	Numeration systems, division models and properties, base 5 and 7
10	F	2/24	Review categories and properties, order of operations, base 5 and 7
11	M	3/1	Base 5/Base 10/Base 7, numeration review, Intro to number theory, review
12	T	3/3	Exam 2
13	W	3/8	Addition/subtraction algorithms, number theory
14	R	3/10	Multiplication/division algorithms, prime factorization, divisibility
15	F	3/15	Prime numbers, prime factor test, GCF, LCM
16	M	3/17	GCF, LCM, Fraction intro, Fraction Strips, Fractions with pictures
17	T	3/22	Fractions with Cuisenaire rods, pattern blocks, counters
18	W	3/24	Review
19	R	3/29	Exam 3
20	F	3/31	Traditional fraction algorithms, Fraction Applications
21	M	4/5	Fraction Applications, Decimal Algorithms
22	T	4/7	Fraction to Decimal conversions
23	W	4/12	Real Numbers and Integers
24	R	4/14	Review
25	F	4/19	Exam 4

¹ <https://angelo.blackboard.com/>

² <https://www.angelo.edu/covid-19/returning-to-campus/health-and-safety.php>

³ <https://www.angelo.edu/current-students/student-handbook/>

⁴ <https://www.angelo.edu/academics/catalog/>

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- ⁵ <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=96>
- ⁶ <https://www.angelo.edu/current-students/disability-services/>
- ⁷ <https://www.angelo.edu/content/files/14197-op-1011-grading-procedures>
- ⁸ <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=96>
- ⁹ https://www.angelo.edu/current-students/writing-center/academic_honesty.php
- ¹⁰ <https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of>
- ¹¹ <http://www.angelo.edu/incident-form>
- ¹² <https://www.angelo.edu/title-ix>
- ¹³ <http://www.texastech.edu/downloads/ttus-policy-face-coverings.pdf>