

MATH 3803 (91)

Algebra for P-8 Teachers

(Spring 2017)

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Office hours: 12:15-2:15 (T & Th, Carrollton)
11:30-12:30 (F, Newnan)

Textbook:

Billstein, R., Libeskind, S., & Lott, J. (2015). *A Problem solving approach to mathematics for elementary school teachers*, 12th Edition. Pearson Addison-Wesley: Boston, MA.

Goals and Objectives of the Course include, but not limited to,

- Explain the role of place value in the operations of decimal numbers and apply the idea in the computation.
- Convert terminating decimals to and from fractions and percents using the ideas of place value.
- Explain the difference between repeating and non-repeating nonterminating decimals and their connection to rational and irrational numbers and be able to convert repeating decimals to and from fractions.
- Be able to solve a system of linear equations to represent equations graphically, and to explain how the solution of a linear system can be interpreted geometrically.
- Explain the difference between quadratic functions and linear functions, be able to solve quadratic equations, and explain the relationship between equation and function graphs.

- Justify in what problem situations two quantities are proportional and use the proportional reasoning in problem solving.
- Explain difference between simple and compound interests and be able to apply the concepts in real life problem situations.

Attendance and Classroom Rules:

- Students should always attend class. Students are allowed to have **THREE** absences, including excused absences. More than 3 absences will result in no credit for the course.
- Students must be punctual. Attendance will be checked at the beginning of each class and students who are not present at that time will be recorded as absent.
- Students who disrupt the class for any reason will be escorted to outside of the classroom, disallowed to return for the day, and marked absent.

Use of Electronics: Students cannot use any electrical device, including calculators, in the classroom. Students who do not abide by this rule will be escorted to outside of the classroom, disallowed to return for the day, and marked absent.

Grading: The final grade in the course will be based on the performance on homework assignments (10 Points), 3 mid-term exams (20 points each) and a final exam (30 points), totaling 100 points.

- Homework will be assigned regularly and collected one class day prior to each midterm exam. Homework grades will be based on the organization (numbers should be in order), completeness, and correctness. Homework must include all the necessary work leading to the answer. Late homework won't be accepted.

Homework Grading Rubric

3 Points: More than 75% correctness and completeness

2 Points: More than 50% correctness and completeness

1 Point: More than 25% correctness and completeness

0 Point: Less than 25% correctness and completeness

- There will be 4 midterm tests and the lowest midterm score will be dropped. **NO** make-up exam will be provided in any case, **including medical emergencies**.
- If students miss the final exam, the final exam score will be 0, with no exception.

<u>Grade Components and Dates</u>			<u>Final Course Grade</u>	
Homework:	10%		A	90-100
Midterm 1	20%*	Feb. 2 nd	B	80-89.99
Midterm 2	20%*	Feb 23 rd	C	70-79.99
Midterm 3	20%*	Mar 30 th	D	60-69.99
Midterm 4	20%*	April 20 th	F	Below 60
Final Exam	30%	May 4 th		

* The lowest midterm will be dropped.

Common Language Link

https://www.westga.edu/administration/vpaa/assets/docs/faculty-resources/common_language_for_course_syllabi_v2.pdf

Tentative Schedule

Week	Topics	Materials
1 & 2	<ul style="list-style-type: none">• Rational Numbers• Addition and Subtraction with Real Numbers	Exploration 1: Textbook-Ch. 6.1 & 6.2
3 & 4	<ul style="list-style-type: none">• Multiplication and Division with Real Numbers• Ratio & Proportion	Exploration 2: Textbook-Ch. 6.3 & 6.4
5 & 6	<ul style="list-style-type: none">• Decimals and Percents• Operations with Decimals• Repeating Decimals	Exploration 3: Textbook-Ch. 7.1, 7.2 & 7.3
7 & 8	<ul style="list-style-type: none">• Percents and Interests	Exploration 4: Textbook-Ch. 7.4
9 (March 9 th)	No class (Math Day)	
10, 11, & 12	<ul style="list-style-type: none">• Real Numbers• Variables	Exploration 5: Textbook-Ch. 8.1, 8.2 & 8.4
13 & 14	<ul style="list-style-type: none">• Equations• Functions• Equations in a Cartesian Coordinate System	Exploration 6: Textbook-Ch. 8.3 & 8.5
14 & 15	<ul style="list-style-type: none">• Review	
16	<ul style="list-style-type: none">• Final Exam	