

**Math3803-E91: Algebra for P-8 Teachers**  
Syllabus for Fall 2019

**Instructor:** Dr. Kyunghye Moon

**Contact Information:**

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**Office:** Boyd 216

**Office hours:** 12:30-3:00 (T & Th) at Carrollton campus

**Text:** *A Problem solving approach to mathematics for elementary school teachers*. An electronic version of the text is available at MyMathLab when you buy an access code at MyMathLab.

**Electronics:** Students could use basic calculators (no cellphone calculators). No scientific, graphing, or programmable calculator is permitted for this course. Students are not allowed to share calculators during exams.

**Overview:** This is an online course by instruction and a combination of online and offline course by exam. Students learn mathematical concepts/ideas through the textbook/eText and resources on MyMathLab, do homework, and take three online tests on MyMathLab. They take pencil and paper tests on campus for midterm and final exams.

To register for MyMathLab, you will need a valid e-mail address, a course ID ([moon35826](#)), and a student access code (included with your textbook). If you do not have an access code (they do not usually come with used books), you can purchase it using a credit card or PayPal at the time of your registration. Follow instructions on [Registration-Math3803-Fall2019.pdf](#) to register for MyMathLab.

**Goals and Objectives** include, but not limited to:

- Understand and explain ratios and proportions and solve word problems using properties.
- Understand and explain sequences such as arithmetic, geometric, and Fibonacci sequences.
- Be able to convert sequences into mathematical forms with variables by finding the nth term.
- Understand and explain the relationships between fractions, decimals, and percents and be able to convert one from another.
- Solve problems involving percents and percent increase/decrease.
- Explain difference between simple and compound interests and be able to apply the concepts in real life problem situations.
- Understand and explain the difference between repeating and non-repeating nonterminating decimals and their connection to rational and irrational numbers.
- Understand properties of operations and of exponents and apply them in problem solving.
- Solve equations and construct equations from word problems and solve them.
- Understand and explain what function is and derivate function equations from sequences.
- Solve a system of linear equations and understand and explain how the solution of a linear system can be interpreted geometrically.
- Define (theoretical) probability and the law of large numbers and apply them in problem solving.
- State the properties of probability and apply them in problem solving.

- Explain the properties of probability using various representations (such as tree diagram and area model).
- Explain how the results from simulations are related to theoretical probabilities.

**Course Structure:** The content of the course is divided into three modules. The following is a course schedule.

Module 1 (Chapter 6 & 7)

Week 1: Section 6.4: Proportional Reasoning

Week 2: Section 7.1: Rational Numbers with Finite Decimal Representations

Week 3: Section 7.2: Operations with Decimals:

Week 4: Section 7.3: Rational Numbers with Repeating Decimal Representations

Week 5&6: Section 7.4: Percents and Interests, Online Test 1 (Sep. 24<sup>th</sup>), & Midterm (Sep. 27<sup>th</sup>)

Module 2 (Chapter 8)

Week 7: Section 8.1: Real Numbers, Properties of Operations and of Exponents

Week 8: Section 8.2: Sequences and Variables

Week 9: Section 8.3: Equations

Week 10: Section 8.4: Functions

Week 11&12 Section 8.5: Equations in a Cartesian Coordinate System & Online Test 2 (Nov. 5<sup>th</sup>)

Module 3 (Chapter 9)

Week 13: Section 9.1: Determining Probability

Week 14: Section 9.2: Multistage Experiments

Week 15: Section 9.4: Permutations and Combinations & Online Test 3 (Dec. 10<sup>th</sup>)

Week 16: Final Exam (Dec. 13<sup>th</sup>)

**Course Outline:**

Students will follow the course schedule outlined in this syllabus to complete approximately one section per week with each section involving viewing textbook/PowerPoint, watching a section video, and working on a homework set. Homework assignments must be worked in their prescribed order and students may attempt homework problems unlimited times.

Students will take a midterm exam and a final exam at the Newnan campus as pencil and paper tests. The midterm exam (Module 1) and the final exam (Module 2 & 3) will take place at 2pm on Sep. 27<sup>th</sup> and Dec. 13<sup>th</sup>, respectively. The rooms and hours for the exams will be announced at later times.

There will also be a writing assignment, which is due Nov. 13<sup>th</sup>. The details about the assignment will be provided at a later time.

**NOTE:**

-All online homework and tests must be completed in order to be eligible to take pencil and paper exams: Module 1 homework assignments and Online Test 1 before Midterm and Module 2 and 3 homework assignments and Online Tests 2 and 3 before Final.

-Students need to ensure they understand definitions, properties, theorems, procedures, and ideas involved in all homework and online test problems to prepare for offline exams.

- Late homework will be allowed only once.
- No make-up exams will be allowed in any case.

**Conferences:** Students are encouraged to seek additional help in case they have difficulties understanding materials. Students may drop by my office during office hours or get help from the Math Tutoring Center (located on the second floor of Boyd Building). Students may also communicate with me through emails.

**Grading:** The final grade in the course will be based on the performance on homework (15 points total), a writing assignment (5 points), three online tests (30 points total), a midterm exam (20 points), and a final exam (30 points), totaling 100 points.

### **Final Course Grade**

Homework: 15%

Writing: 5%

Online Tests: 30%

Midterm: 20% (Sep. 27<sup>th</sup> at 2pm)

Final: 30% (Dec. 13<sup>th</sup> at 2pm)

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Total: 100%

A: 90-100%; B: 80-89%; C: 70-79%; D: 60-69%; F: Below 60%

**Academic Dishonesty:** Any instance of academic dishonesty on homework and exams, including online tests, will result in a failing grade for this course and may result in additional disciplinary actions.

**Common Language Link:** For school policies and supports, check the link below:  
<https://www.westga.edu/administration/vpaa/common-language-course-syllabi.php>.

### **Due Dates for Assignments and Tests:**

Homework 6.4: Aug. 24<sup>th</sup>

Homework 7.1: Aug. 31<sup>st</sup>

Homework 7.2: Sep. 7<sup>th</sup>

Homework 7.3: Sep. 14<sup>th</sup>

Homework 7.4: Sep. 21<sup>st</sup>

Online Test 1: Sep. 24<sup>th</sup>

Midterm Exam: Sep. 27<sup>th</sup>

Homework 8.1: Oct. 5<sup>th</sup>

Homework 8.2: Oct. 12<sup>th</sup>

Homework 8.3: Oct. 19<sup>th</sup>

Homework 8.4: Oct. 26<sup>th</sup>

Homework 8.5: Nov. 2<sup>nd</sup>

Online Test 2: Nov. 5<sup>th</sup>

Writing Assignment: Nov. 13<sup>th</sup>

Homework 9.1: Nov. 16<sup>th</sup>

Homework 9.2: Nov. 23<sup>rd</sup>

Homework 9.4: Dec. 7<sup>th</sup>

Online Test 3: Dec. 10<sup>th</sup>

Final Exam: Dec. 13<sup>th</sup>