

MATH 3309: Survey of Basic Mathematical Theory II

Sul Ross State University ~ Rio Grande College
Summer II, 2016

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Course Description MTH 3309 is intended as a survey of basic mathematical theory for future elementary teachers.

Course Objectives Students will be introduced to the rational number system and the real number system; use ratios, proportions, and percents to solve applied problems; qualitatively and quantitatively analyze sets of statistical data; be introduced to the basic techniques of statistical inference; work with experimental probability; and learn the basic principles of counting and use them in problems of theoretical probability.

TEKS Information on the Texas Essential Knowledge and Skills can be found on the TEA website: <http://www.tea.state.tx.us>

Class Time Tuesday and Thursday, 1:00 – 4:45 p.m.

Class Location Del Rio 107; Eagle Pass B112; Uvalde B114c

Required Text Long, DeTemple, & Millman, *Mathematical Reasoning for Elementary Teachers*, Seventh Edition, ISBN 0321900995

Office Hours Tuesday and Thursday, 11 a.m. – 1 p.m., unless specified otherwise

Course Policies

Attendance Policy

Attendance is mandatory. Roll may be called during class. You may be dropped from the course if you accumulate more than nine absences, in accordance with University policy. One class period amounts to four absences. Arriving in class late or leaving early may be counted as a partial absence. It is your responsibility to notify me if you will be absent for any reason.

This is a summer class, and very fast-paced. If you miss as much as a single class (which amounts to a week and a half in the long semester) then you're already significantly behind. Hit the ground running and keep up from the very beginning, and you'll do fine.

You will be held responsible for all material covered in class or the assigned text. If you have to miss a class, it is your responsibility to obtain all notes, assignments, and announcements from someone else in the class. Make-up exams will be given only in the event of an emergency, in which case written justification and/or documentation must be provided and approved.

Communication

I will post course documents, assignments, and announcements on the Blackboard system. You will also occasionally turn in assignments through Blackboard. You should make sure you know how to access and use it; in particular, you need to make sure that you are checking the e-mail address listed there.

E-mail is the best way to contact me. You are also welcome to stop by my office if you wish to speak about the content or your progress in the course.

I am here to help you. Ask questions in class, call me, e-mail me, or come to my office. If you don't communicate with me, then I can't help you. Don't wait until it's too late.

Homework

Homework will be assigned for each section that we cover in the text. Although the homework will not be collected and graded, you should regard it as the most essential component of the course. It is very important that you complete each homework assignment before the next class period. This will allow you to make the most of our time together. If you have a question, ask about it. If you don't understand the homework, you are not ready to take the exam.

In order to achieve success in this course, you must work all the homework assignments in a timely manner!!! The amount of work for any college class is generally calculated as 3 hours of outside work for each hour in class. **That means you should expect to spend as much as 20 hours each week on outside work in this course.** If you don't have that kind of time, you may not want to take this course as a summer class.

We will always have time to discuss the homework in class, and we may also work on problems together in groups. You should come to class prepared: make sure to have your textbook and suitable writing materials with you.

Grading Policy

Your grades will be weighted as follows:

Midterm Exam	40%
Final Exam	60%

A student who averages at least 90% will receive an A; at least 80% will receive at least a B; at least 70% will receive at least a C; at least 60% will receive at least a D.

Exams

There will be one midterm exam. Its tentative date is July 21. This is subject to change. You will be notified of a change in advance. Make-up exams will be given **only in the event of an emergency**, in which case written justification and/or documentation must be provided and approved.

The final exam is scheduled for August 11. The final exam will be comprehensive.

Subject Outline

Below is a tentative outline of the subjects we will cover in this course. We will adhere to the textbook fairly closely. Next to each topic section is the corresponding section from the textbook.

- I. Rational numbers and real numbers
 - 1. Fractions (§6.1)
 - 2. Addition and subtraction of fractions (§6.2)
 - 3. Multiplication and division of fractions (§6.3)
 - 4. Rational numbers (§§6.1,4)
 - 5. Decimals and real numbers (§§7.1 – 2)
 - 6. Ratios, proportions, and percents (§§7.3 – 4)
- II. Statistics (Chapter 13)
 - 1. Organizing and representing data
 - 2. Measuring the center and variation of data
 - 3. Statistical inference
- III. Probability (Chapter 14)
 - 1. The basics of probability
 - 2. Counting principles
 - 3. Permutations and combinations
 - 4. Odds and expected values

Schedule

This schedule is tentative only. The section numbers refer to the above outline.

Unit I	July 7 – 21
Midterm Exam	July 26
Unit II	July 26 – August 2
Unit III	August 2 – 9
Final Exam	August 11

Americans With Disabilities Act

Sul Ross State University is committed to equal access in compliance with the Americans With Disabilities Act of 1973. It is the student's responsibility to initiate a request for accessibility services. Students seeking accessibility services must contact Kathy Biddick, Student Services Administrative Secretary.