

# Math 3309

## Survey of Basic Math Theory II

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Office Hours  
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**Catalog description:** Geometric concepts, probability, statistics, estimation, problem solving, and other related topics.

**Pre-requisites, co-requisites, and other requirements:** Math 3308

Required: MyMathlab Access Code (Course ID: **davis04475**)

Etext (Comes with MyMathlab): Mathematical Reasoning for Elementary Teachers, 7<sup>th</sup> Edition, Long, DeTemple and Millman.

Readings and Lecture Topics will include the following

### CHAPTER 6 – FRACTIONS AND RATIONAL NUMBERS

- 6.1 The Basic Concepts of Fractions and Rational Numbers
- 6.2 Addition and Subtraction of Fractions
- 6.3 Multiplication and Division of Fractions
- 6.4 The Rational Number System

### CHAPTER 7 – DECIMALS, REAL NUMBERS, AND PROPORTIONAL REASONING

- 7.1 Decimals and Real Numbers
- 7.2 Computation with Decimals
- 7.3 Proportional Reasoning
- 7.4 Percent

### CHAPTER 8 –ALGEBRAIC REASONING, GRAPHING, AND CONNECTIONS WITH GEOMETRY

- 8.1 Variables, Algebraic Expressions, and Functions
- 8.2 Graphing Lines, Points, and Elementary Functions
- 8.3 Connections with Geometry

### CHAPTER 9 – GEOMETRIC FIGURES

- 9.1 Figures in the Plane
- 9.2 Curves and Polygons in the Plane

### CHAPTER 10 – MEASUREMENT: LENGTH, AREA, AND VOLUME

- 10.1 The Measurement Process
- 10.2 Area and Perimeter
- 10.3 The Pythagorean Theorem
- 10.4 Volume

### CHAPTER 11 – TRANSFORMATIONS AND SYMMETRIES

- 11.1 Rigid Motions and Similarity Transformations
- 11.2 Patterns and Symmetry

### CHAPTER 13 – STATISTICS: THE INTERPRETATION OF DATA

- 13.1 Organizing and Representing Data
- 13.2 Measuring the Center and Variation of Data
- 13.3 Statistical Inference

## Course requirements and policies:

### A. Grade Requirements

Grading Procedure:	Tests (2)	100 points each
	Research Paper	100 points
	Homework (2)	100 points each
Schedule: Due Dates	Test 1 (Chapters 6, 7, and 8) & Homework	June 10 (11:59 PM)
	Research Paper	June 22 (11:59 PM)
	Test 2 (9, 10, 11, 13) & Homework	June 28 (11:59 PM)
MyMathLab	MyMathLab is an online homework and testing system that will be used for deliver assessments (homework and tests) in this course. You must purchase an access code directly from Pearson via the MyMathLab website or through the Sul Ross Bookstore. Please see Blackboard for complete instructions.	
Homework Policy	The homework grade is based on the homework score on MyMathlab. Test 1 Homework will contain questions from Chapters 6, 7, and 8. Test 2 Homework will contain questions from Chapters 9, 10, 11, and 13. Each homework set is worth 100 points toward your final grade. Homework due dates are stated above and on MyMathLab. These are due dates; you do not have to wait until that date to finish the homework. Please be advised that NO EXTENSIONS WILL BE GRANTED.	
Test Policy	Each test grade is based on the test score on MyMathlab. Test 1 will contain questions from Chapters 6, 7, and 8; specifically I will select questions from Test 1 homework. Test 2 will contain questions from Chapters 9, 10, 11, and 13; specifically, I will select questions from Test 2 homework. Each test is worth 100 points toward your final grade. Test due dates are stated above and on MyMathLab. These are due dates; you do not have to wait until that date to finish the test. Please be advised that NO EXTENSIONS WILL BE GRANTED.	
Research paper	The research paper will consist of a report on a significant figure in the field of mathematics or mathematical education. The report will consist of two typed pages with sources cited on a third page. See Blackboard for report topic and further details. Please email your report to <a href="mailto:radavis@swtjc.edu">radavis@swtjc.edu</a> by midnight June 22.	
Grade Determination:	<u>Total Points</u>	<u>Letter Grade</u>
	450-500	A
	400-449	B
	350-399	C
	300-349	D
	0-299	F

## B. Policies:

**Technology Requirement:** Calculators can be used in class and on all homework assignments. But calculators will not be allowed on the tests or the final exam.

ADA Statement: “As per Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, if accommodation is needed notify me as soon as possible. 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 Mary Schwartz, M. Ed., L.P.C., in Counseling and Accessibility Services, Ferguson Hall, Room 112. The mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas 79832. Telephone: 432-837-8691. E-mail: mschwartz@sulross.edu .

**Academic Dishonesty:** Students may be subject to disciplinary proceedings resulting in an academic penalty or disciplinary penalty for academic dishonesty. Academic Dishonesty includes, but is not limited to, cheating on a test, plagiarism and collusion.

**Electronic Devices:** Students are required to silence all electronic devices (cellular phones, etc.) when in classrooms, laboratories and the library.

**Attendance:** A student absent for any reason is responsible for all work missed.

**PowerPoint Lecture Notes:** PowerPoint Lecture notes will be made available through Blackboard. A copy of the syllabus is also available via Blackboard.

## C. Student Learning Outcomes

1. Student Learning Outcomes- See Department of Education outcomes- The preservice teacher understands how students learn mathematical skills and uses that knowledge to plan, organize and implement instruction and assess learning. The preservice teacher understands concepts related to numbers, operations and algorithms and the properties of numbers. The preservice teacher understands concepts related to patterns, relations, functions and algebraic reasoning. The preservice teacher understands concepts and principles of geometry and measurement. The preservice teacher understands concepts related to probability and statistics and their applications. The preservice teacher understands mathematical processes and knows how to reason mathematically, solve mathematical problems and make mathematical connections within and outside of mathematics.
2. Course Competencies—See TExES Competencies for Math EC-6 on the following pages

*Distance Education Statement:* Students enrolled in distance education courses have equal access to the university’s academic support services, such as Smarthinking, library resources, such as online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires secure login information to verify students’ identities and to protect students’ information. **[If the course requires students to take proctored exams or to purchase additional software or equipment, please describe those requirements here.]** The procedures for filing a student complaint are included in the student handbook. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website.