

Math 3308

Survey of Basic Math Theory I

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Catalog description: Sets and Whole Numbers, Numeration Systems, Number Theory and Integers.

Pre-requisites, co-requisites, and other requirements: College Algebra

Required: **Mathematical Reasoning for Elementary Teachers - Media Update 7th Edition**

Author(s): Long, Calvin | DeTemple, Duane | Millman, Richard

Textbook ISBN-13: 9780134758824

Course ID: davis35790

CHAPTER 2 – SET AND WHOLE NUMBERS

- 2.1 Sets and Operations on Sets
- 2.2 Sets, Counting and the Whole Numbers
- 2.3 Addition and Subtraction of Whole Numbers
- 2.4 Multiplication and Division of Whole Numbers

CHAPTER 3 – NUMERATION AND COMPUTATION

- 3.1 Numeration Systems Past and Present
- 3.2 Algorithms for Addition and Subtraction of Whole Numbers
- 3.3 Algorithms for Multiplication and Division of Whole Numbers
- 3.4 Mental Arithmetic and Estimation
- 3.5 Nondecimal Positional Systems

CHAPTER 4 – NUMBER THEORY

- 4.1 Divisibility of Natural Numbers
- 4.2 Tests for Divisibility
- 4.3 Greatest Common Divisors and Least Common Multiples

CHAPTER 5 – INTEGERS

- 5.1 Representations of Integers
- 5.2 Addition and Subtraction of Integers
- 5.3 Multiplication of Integers

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

Course requirements and policies:

A. Grade Requirements

Grading Procedure:	2 Tests	100 points each
	2 Homework Assignments	100 points each
	Final Exam	100 points
Schedule	Test 1 (Chapters 2 and 3)	October 9
	Test 2 (Chapters 4, 5, and 6)	November 20
	Final Exam	December 11

Make-up Policy:	Makeup exams will be granted only in cases of medical and legal obligations. Student must provide a medical or legal document. It is at the discretion of the instructor whether to grant the request.
Final Exam	The final exam is comprehensive.
Homework	The homework grade is based on the Mymathlab homework score.
Extra Credit	Extra Credit is available for Test 1 and Test 2, but not the final exam. Extra Credit Policy is available on Blackboard.

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