

Sul Ross State University Rio Grande College

MATH 3309

Survey of Basic Mathematical Theory II

Location: Teleconference

Professor: Patricia Nicosia, Ph.D.

Term: Summer I 2019

Telephone: 703-4836 (Office)

E-mail: pnicosia@sulross.edu

Day/Time: Monday & Wednesday/9 am – 12:45 pm

Description: Math 3309 will include the following topics-integers, fractions and decimal numbers, problem solving, algebra, probability, statistics, measurement and geometry. Prerequisite- Math 3308.

Student Learning

Objectives: The student will be able to-understand and use mathematical reasoning to identify, extend and analyze patterns, understand the relationships among variables, expressions, equations, inequalities, relations and functions, understand how to use graphical and numerical techniques to explore data, characterize patterns, and describe departures from patterns, understand the theory of probability, and master the essential concepts of geometry and measurement.

Text: Long, DeTemple & Millman, *Mathematical Reasoning for Elementary Teachers*, Seventh Edition, AddisonWesley Longman, Inc., 2012. ISBN: 978-0-321-90099-9

Attendance: You are expected to attend all meetings. If you miss a session, you must make arrangements to get all notes, assignments, handouts and announcements from the missed class. Test dates are fixed and will not change. No make-up examinations will be given except for genuine emergencies. The student is responsible for providing the instructor with written justification for the emergency absence. All documentation will be reviewed and then a decision will be made. **All exams will be taken at the site in which you are officially enrolled.**

Grading: Your grade will be based on three exams (30% each) and two written reports (1-2 typed pages with sources cited) about Srinivasa Ramanujan (5%) and Ronald Fisher (5%). Grades will be assigned as follows- A: 90%-100%, B: 80%-89%, C: 70%-79%, D: 60%-69%, F: below 60%.

Schedule: Math 3309 will cover Chapters 6-8, 13

Week 1: Fractions and Rational Numbers (The Basic Concepts of Fractions and Rational Numbers, Addition and Subtraction of Fractions, Multiplication and Division of Fractions, The Rational-Number System)

Weeks 2 & 3: Decimals, Real Numbers, and Proportional Reasoning
(Decimals and Real Numbers, Computations with Decimals, Proportional Reasoning, Percent)

Week 4: Algebraic Reasoning and Representation (Algebraic Expressions, Functions, and Equations, Graphing, Geometry, and Algebra in the Cartesian Plane)

Week 5: Statistics: The Interpretation of Data (Organizing and Representing Data, Measuring the Center and Variation of Data, Statistical Inference)

Test & Due dates: Exam I / June 5, 11 – 12:15 pm
Exam II / June 17, 11 – 12:15 pm
Exam III / June 24, 11 – 12:15 pm
June 26 / Srinivasa Ramanujan Report Due (email to pnicosia@sulross.edu by 12:45 pm on June 26.
July 1 / Ronald Fisher Report Due (email to pnicosia@sulross.edu by 12:45 pm on July 1.

Additional Information:

1. Sul Ross State University Rio Grande College 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 the Student Support Specialist on their campus.
2. Office Location: Del Rio, Room 219; Hours: anytime I'm in my office and by appointment.
***If I am teaching at another location, I will be available at that site.*
3. Texas Essential Knowledge and Skills (TEKS) web site is [www. tea.state.tx.us](http://www.tea.state.tx.us)
4. **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.
5. No credit will be given for reports submitted after the due date and time.
6. Class time on June 26 and July 1 for reports (RGC computer labs).

