

Sul Ross State University Rio Grande College
MATH 4304
Probability and Statistics II

Location: Web

Term: Spring 2020

Professor: Patricia Nicosia, Ph.D.

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Text: 1. Larson & Farber, *Elementary Statistics: Picturing the World*, 6th Edition, Prentice Hall Publishing Company. ISBN 978-0-321-91121-6

2. Graphing Calculator Manual, ISBN 978-0-321-69379-2

3. Video Resources on DVD, ISBN 978-0-321-69374-7

Description: Math 4304 will include the following topics- random variables and distributions, estimation and hypothesis testing, linear regression and correlation, analysis of variance, and multiple regression.

Prerequisite- Math 3302

Student Learning

Objectives: The student will be able to-understand principles of hypothesis testing, use the law of large numbers and the central limit theorem in the process of statistical inference, estimate parameters using point estimators, describe and analyze bivariate data using various techniques, analyze and interpret statistical information, make inferences about a population, and apply knowledge of designing, conducting, analyzing, and interpreting statistical experiments to investigate real-world problems.

Student Learning Outcomes: The student will be able to demonstrate content knowledge in the foundations of mathematics including discrete mathematics and geometry.

The student will be able to research a Humanistic mathematical topic and communicate their knowledge in writing.

The student will be able to research a Humanistic mathematical topic and communicate their knowledge orally.

Grading: Your grade will be based on ten quizzes (10% each). Grades will be assigned as follows:

A: 90%-100%, B: 80%-89%, C: 70%-79%, D: 60%-69%, F: below 60%.

Schedule: Math 4304 will cover Chapters 4 – 9.

Calculator: You will need a TI-83 graphing calculator.

Class Schedule:

January 16

Syllabus

January 23

Probability Distributions, Binomial Distributions, View videos 4.1, 4.2

January 30

Chapter 4 Review Exercises, page 225 – 227 (Textbook), problems 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 25

Answers must be submitted before midnight on January 30.

February 6

Introduction to Normal Distributions, The Standard Normal Distribution, View videos 5.1, 5.2, 5.3

February 13

Sampling Distributions and the Central Limit Theorem, Normal Approximations to Binomial Distributions, View videos 5.4, 5.5

Chapter 5 Review Exercises, page 286 – 289 (Textbook), problems 7, 9, 11, 17, 29, 31, 33, 55, 63, 65, 69

Answers must be submitted before midnight on February 13.

February 20

Confidence Intervals for the Mean- Large Samples, Small Samples, View videos 6.1, 6.2

February 27

Confidence Intervals for Population Proportions, Confidence Intervals for Variance and Standard Deviation, View Videos 6.3, 6.4

Chapter 6 Quiz (Textbook), problems 1, 2, 3 on page 340

Answers must be submitted before midnight on February 27.

March 5

Introduction to Hypothesis Testing, View Video 7.1

Chapter 6 Quiz (Textbook), problems 4, 5, 6 on page 340

Answers must be submitted before midnight on March 5.

March 19

Hypothesis Testing for the Mean (Large Samples), View video 7.2

March 26

Hypothesis Testing for the Mean (Small Samples), View video 7.3

Hypothesis Testing for Proportions, View video 7.4

Chapter 7 Quiz (Textbook), problems 1, 2 on page 410

Answers must be submitted before midnight on March 26.

April 2

Hypothesis Testing for Variance and Standard Deviation, View vides 7.5

Chapter 7 Quiz (Textbook), problems 3, 4 on page 410

Answers must be submitted before midnight on April 2.

April 9

Testing the Difference Between Means (Large Independent Samples), Testing the Difference Between Means (Small Independent Samples), view videos 8.1, 8.2

Chapter 7 Quiz (Textbook), problems 5, 6 on page 410

Answers must be submitted before midnight on April 9.

April 16

Testing the Difference Between Means (Dependent Samples), Testing the Difference Between Proportions, View videos 8.3, 8.4

Chapter 8 Quiz (Textbook), problems 1, 2 on page 460

Answers must be submitted before midnight on April 16.

April 23

Correlation, Linear Regression, View Videos 9.1, 9.2

Chapter 8 Quiz (Textbook), problems 3, 4 on page 460

Answers must be submitted before midnight on April 23.

April 30

Chapter 9 Quiz (Textbook), problems 1, 2, 3, 4, 5 on page 520

Answers must be submitted before midnight on April 30.

Additional Information:

- 1. All assignments will be submitted on Blackboard. You will not receive credit for assignments submitted after the due date and time.**
2. 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.
3. Office Location: Del Rio , Room 219
4. Office Hours:
Monday: 11 – 12 pm
Wednesday: 11 – 12 pm
Thursday: 11 - 12 pm
Also available anytime I'm in my office and by appointment.
***If I am teaching at another location, I will be available at that site.*

Distance Education Statement: Students enrolled in distance education courses have equal access to the university's academic support services, library resources, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should submit online assignments through Blackboard which require secure login information to verify students' identities and to protect students' information. Exams will be taken at the RGC site in which you are officially registered. 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.