

MATH 350

Introduction to Probability and Statistics

Section 01 Holt Hall 257

MoWeFr 9:00AM - 9:50AM

Edward A. Roualdes

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Office Hours: Holt 204 MoWe 2-2:50, Community Coding in MLIB 442 TuTh 2-3:50, or by appointment

Textbook

R. V. Hogg and E. A. Tanis. [Probability and statistical inference](#): 8th Edition. Macmillan New York, 2009.

R

Go download and install [R](#), and then go download and install [RStudio](#). After this, only ever open and use RStudio.

Course Grading

Your final grade for this course will be given according to the $+/-$ grading system, based on the following percentages and scale: 90 – 100, A; 80 – < 90, B; 70 – < 80, C; 60 – < 70, D; < 60, F.

Labs, Worksheets, Participation, and Quizzes	20%
Homework	20%
Exam 01	20%
Exam 02	20%
Final	20%

Homework

Homework will be assigned as I see fit. Submit your homework to me directly or to my office (slide under door if I'm not there) no later than 12:00PM the day it is due. Working with other students on homework is allowed, subject to the Academic Integrity Policy below.

After the due date, you are allowed to turn in homework before the next exam for up to 50% credit. After this exam you will not be allowed to turn in late homework.

Tests

There will be 3 tests including the final. Make-up tests are subject to the Make-Up Policy below. All exams are comprehensive and will not be given earlier than the scheduled date for your class.

Make-Up Policy

Course work can only be made-up in the case of a documented absence. To receive credit you must notify me in advance, or in the case of emergency, as soon as possible (within roughly 24 hours). All undocumented absences will result in a zero.

Getting Help

- You can visit the Math Tutor Lab on the fourth floor of Meriam Library. You should also visit your instructor during his/her office hours.
- Free Tutoring by Appointment at the [Student Learning Center](#).
- Me – though I reserve the right to refuse to provide help within 24 hours of an exam.

Diversity Policy

Respect: Students in this class are encouraged to speak up and participate during class meetings. Because the class will represent a diversity of individual beliefs, backgrounds, and experiences, every member of this class must show respect for every other member of this class.

Academic Integrity Policy

Students are permitted and encouraged to collaborate on all assignments other than examinations. However, each student must turn in their own work. Further, it is the expressed expectation of this instructor that all students demonstrate integrity and individual responsibility in all actions related to this course. Unethical behavior of any kind is unacceptable and will be prosecuted vigorously. Any sign of cheating in any way on any course exams or assignments will be addressed directly, according to university standards.

If you do not understand what plagiarism is, or what cheating entails, you must seek information regarding this matter from the current University Catalog and from me. The consequences of plagiarism begin with a failing grade on the work, and possibly a failing grade in the course, depending upon university action. More information is found at <http://catalog.csuchico.edu/viewer/15/STUDJUDAFFAIRS.html>

Disability Support

If you have any disability related needs in terms of taking exams or other accommodations, please contact Disability Support Service (Colusa Hall 898-5959 or campus information 898-INFO for directions) on campus to obtain the appropriate documentation. Afterwards, come by my office and identify your needs within the first two weeks of class so that any necessary arrangements can be made.

Course Outline

The course outline is tentative and subject to change.

- Chapter 1: Probability
 - Basic Concepts
 - Properties of Probability
 - Methods of Enumeration
 - Conditional Probability
 - Independent Events
 - Bayes's Theorem
- Chapter 2: Discrete Distributions
 - Random Variable of the Discrete Type
 - Mathematical Expectation
 - The Mean, Variance, and Standard Deviation
 - Bernoulli Trials and the Binomial Distribution
 - The Moment-Generating Function
 - The Poisson Distribution
- Exam 01
- Chapter 3: Continuous Distributions
 - Continuous-Type Data

- Exploratory Data Analysis
- Random Variables of the Continuous Type
- The Uniform and Exponential Distribution
- The Gamma and Chi-Square Distributions
- The Normal Distribution
- Additional Models
- Chapter 4: Bivariate Distributions
 - Distributions of Two Random Variables
 - The Correlation Coefficient
 - Conditional Distributions
 - The Bivariate Normal Distribution
- Exam 02
- Chapter 5: Distributions of Functions of Random Variables
 - Function of One Random Variable
 - Transformations of Two Random Variables
 - Several Independent Random Variables
 - The Moment-Generating Function Technique
 - Random Functions Associated with Normal Distributions
 - The Central Limit Theorem
- Final
- (time permitting) Chapter 6: Estimation