

MW 9:25 - 10:40 Robinson 325

Prerequisites: Discrete Structures, Calculus II and OOPDA (C- or better in all).

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Office Hours: M 3:15 – 4, T 1:30 – 2:30, W 5:00 – 6:00, Th 11:00 – 12:00

Required Text: **Modern Mathematical Statistics with Applications.** 1st edition by Devore and Berk. Duxbury, Belmont, CA, 2007. The accompanying solutions manual is optional (but highly recommended).

Software/Usage: Throughout the semester we will be using a statistical software package called JMP. The University has the licenses for Windows and Mac, and it can be downloaded from the Rowan website at no cost to you. It is already available on any network computer on campus. You will be required to use JMP on many of the homework problems (see the list of homework problems for the requirements).

Grading: Homework Notebook	15%	Quizzes (3)	15%
Poker Project	10%	Exams (3)	60%

Grading scale: I use the standard cutoffs of 90, 80, 70, and 60. Any curve (and there hasn't been one before) or adjustment would be used at the end of the semester, not on a single quiz or exam.

Homework problems from the book will be provided at the beginning of the semester. Additional problems will be assigned as needed. You are to maintain a notebook with all of your work. **At the time of each exam, you are required to submit your homework notebook.** Your homework grade will be based on the effort made to solve the problems relevant to the material covered on that exam. While your answers need not be correct, doing half of each problem will not result in a high grade.

Please bring your notebook to class and for office hours. This will allow us to examine what you have tried so that we can see if you are on the right track. **Note: In-class questions about problems may be asked within two classes of when the material was originally covered.**

For the purpose of your homework grade, you can earn a 10, 9, 8, 7, 6, 5 or 0. Those handing in a notebook with 50% or fewer of the problems attempted should not be surprised at receiving a 0. Each submission will count for 5% of your final grade. **Late notebooks will not be accepted, period.** Any missed submission will be assigned a grade of zero (0).

Quizzes will be take-home. On the **Exams**, the lowest of your three exams will count 15%, the highest will count 25%. The exams will be in-class. You are allowed one 8.5x11 sheet of notes for each exam.

Although **Class Participation/Effort** is not formally listed, a strong effort and attendance record can provide the "benefit of the doubt" for those with borderline grades.

Attendance/Make-up/Missed Assignments -. Attendance will be taken on an occasional basis. If you want to do well in this course, then the first step is simple – show up. I can't guarantee what you'll earn if you come to every class, but I'm pretty certain what you'll earn if you have a lousy attendance record. **If you are unable to take an quiz/exam for any reason (including mild illness), you must notify me in advance!** Speak with me in person, over the phone, or leave me a phone-or e-mail message. If your excuse is reasonable, something will be worked out. If you do not speak with me until after the quiz/exam, a make-up will be given only in the case of an extreme emergency.

Academic Honesty: The work on the exams must be your own. If you are caught cheating, you will receive an F for the course and you will not be allowed to withdraw from the course. I reserve the right to contact the Provost's Office to

begin expulsion procedures. By the way, each exam has multiple versions, so copying from a neighbor will be an obvious infraction.

Cell Phones and Musical Devices (Walkmen, MP3 players) are to be **turned off** for the duration of the class. In past years, some students have decided that class, despite my statement, is a good place to text under the table, behind a book, etc. Hence, here is my new policy:

If you text/browse the web/etc. during class, I will not answer any of your questions, at any time, for the remainder of the semester. You will not be allowed to come to office hours. MOREOVER, all electronic devices other than your graphing calculator must be turned off during all in-class quizzes and exams. Failure to do so will fall under the academic honesty policies.

If you require additional outside help, contact the Tutoring Center in Savitz Hall (x4264)

Office Hours/Questions/Extra Help – I will be glad to help you if you need it. Office hours are on a first-come/first-serve basis. When a number of students show up, I may move to the table in the middle of the math office (you’ll see me), or possibly into the math conference room (where you wouldn’t see me). Make sure that you check with in the conference room or with the secretary if I am not available during office hours. If you can’t come during office hours, please set up an appointment with me or send me your question via e-mail. Most importantly, **do not wait until you have been in trouble for three or four weeks to come see me. By that time, most people are so far behind that they can’t catch up.**

Students With Disabilities and Special Needs: Speak with me tonight if I need to make appropriate accommodations for you. You should contact the Office of Special Services in Memorial Hall (x4233).

Material to be covered

Chapter 1 Descriptive Statistics and Data Analysis (followed by quiz 1)

Chapter 2 General Probability

Exam 1

Chapter 3 Discrete Random Variables and Probability Distributions

Quiz 2

Chapter 4 Continuous Random Variables (sections 1-4, 6)

Exam 2

Chapter 6 Sampling Distributions (sections 1, 2)

Chapter 8 Confidence Intervals (sections 1-3)

Quiz 3

Chapter 9 Hypothesis Testing (sections 1-4)

Homework (Problems with an * require JMP – output must be submitted)

Chap.	Exercises (Section #'s in Bold)
1	1.1 1, 5; 1.2 12*, 14, 15*, 17*, 20, 21(use JMP for part a), 23*, 28; 1.3 31*, 32*, 36*, 38, 39; 1.4 42abd (by hand), 47, 48*, 52*, 54*, 56*, 58*; Supp. 61*, 72*, 77
2	2.1 3, 5, 7, 8, 11b, 12; 2.2 15, 16, 20, 22, 23, 24, 27; 2.3 31, 33, 35, 36, 38, 39, 40; 2.4 46, 50, 53, 56, 60, 61; 2.5 70, 73, 75, 78, 79, 81; Supp. 87, 93, 94
3	3.1 4, 7e-h, 9, 10; 3.2 12, 15, 17, 20, 23; 3.3 30, 31, 34, 35, 41; 3.4 46, 49a, 51, 53, 56a; 3.5 61, 63, 65, 68, 70, 75; 3.6 81, 83, 84, 87, 91; 3.7 94, 97, 98, 100, 102; Supp. 124, 125
4	4.1 3, 5, 6, 7, 12, 16; 4.2 19, 21, 24, 25, 29, 34; 4.3 39 f-j, 42, 44, 47, 50, 52, 56, 58; 4.4 73, 75; 4.6 98, 102, 104; Supp. 136, 137
6	6.1 1, 5, 6, 8*; 6.2 15, 16, 18, 21; plus exercises to be handed out in class
8	8.1 2, 11; 8.2 20, 23; 8.3 30def*, 31cd*, 33*, 35*, 39*, 41*, 42*
9	9.1 1, 3, 4, 6, 7; 9.2 23*, 27ab*, 29*, 32*, 9.3 36*, 38*, 41*, 9.4 46d-f, 49d-f, 55*, 56*; Supp. 81*, 84*

Math Pretest

1. Suppose you have three sets, A , B , and C , such that all pairwise intersections are non-empty. The universal set is the set of all current Rowan students.

a) Draw a Venn diagram containing all three sets and shade the area that represents $A \cap (\bar{B} \cup C)$.

b) Let $A =$ Computer science majors

$B =$ Math minors

$C =$ People who prefer UNIX/Linux to Windows and Mac OS

Describe in words the people that are in the set you shaded in part a).

2. Find $f'(x)$ and $f''(4)$ for each of the following functions:

a) $f(x) = 3x^2 - 7x + 2$

b) $f(x) = \ln(4x^9)$

c) $f(x) = e^{-2x}$

d) $f(x) = xe^{-x/3}$

3. Evaluate the following integrals:

a) $\int_2^4 (x^2 - 4x + 9) dx$

b) $\int_0^{\infty} e^{-2x} dx$

c) $\int_0^3 f(x) dx$ where $f(x) = \begin{cases} 2x + 2 & x < 1 \\ -x^2 + 4x + 1 & x \geq 1 \end{cases}$

d) $\int_0^{\infty} xe^{-2x} dx$

4. What are the values of the following infinite series?

$$3 + \frac{1}{3} + \frac{1}{27} + \frac{1}{243} + \frac{1}{2187} + \dots$$

$$1 - \frac{1}{4} + \frac{2}{5} - \frac{5}{28} + \frac{4}{25} - \frac{25}{196} + \frac{8}{125} - \frac{125}{1372} + \dots$$

5. Graph $f(x)$ in 3c by hand - properly!

6. A programming team has 14 members.

a) How many ways can a group of seven be chosen to work on a project?

b) Suppose eight team members are women and six are men. How many groups of seven can be selected such that they contain four women and three men? How many can be chosen so that they have at least one man?