San Jose State University, Spring 2020

Math 161A: Applied Probability & Statistics I

Section 4, TR 9:00-10:15am, MH 424
Section 5, TR 1:30-2:45pm, MH 223

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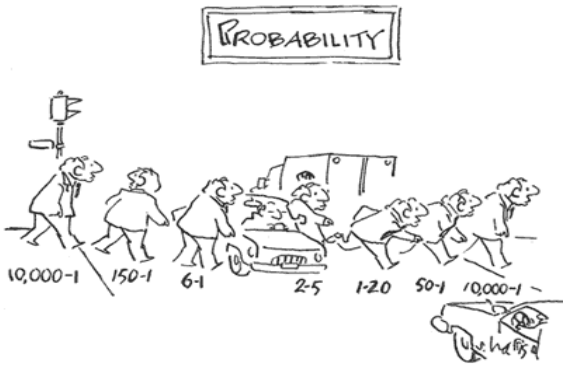

Catalog description

Descriptive and inferential statistics. Collection and analysis of data, discrete and continuous probability models, random variables, central limit theorem, confidence intervals, hypothesis testing.

- **Prerequisite**: MATH 31 (with a grade of "C-" or better) or instructor consent
- **Textbook:** *Probability and Statistics for Engineering and the Sciences*, 9th edition, Devore (2016), Cengage Learning. ISBN: 978-1305251809
- **Technology:** A scientific calculator will be needed for homework and tests.

Learning management system

Course syllabus and lecture slides will be posted on the above-listed course page. Assignments and their scores will be posted in Canvas at https://sjsu.instructure.com; please check regularly and let me know ASAP if there is any mistake in recording.

Class guidelines

- The class starts on time and on some days, there are pop quizzes at the beginning of class, so do not be late.
- If you miss a class, you are responsible for finding out what's said/done in that class (such as new announcement, deadline change, etc.), and acting accordingly.
- Please make sure to turn off or mute your cell phone during class.
- Please do not perform irrelevant or distracting activities in class.
- Academic dishonesty in any form is not tolerated and will surely be reported to the Office of Student Conduct, per SJSU policy.

Grading policy

Homework assignments, with their due dates, will be regularly posted in Canvas and collected in class. Please staple your homework and write neatly (unrecognizable work will receive no credit).

Late homework will not be accepted for any reason, but your lowest homework score will be dropped.

You may collaborate on homework but you must write independent solutions. Copying at any level will result in a zero score for the homework (minimal penalty), and possibly additional disciplinary actions from the University.

There will be two in-class midterm exams and a final exam (all in this room):

- **Midterm 1**: March 3, Tuesday, class time
- **Midterm 2**: April 16, Thursday, class time
- **Final**: May 19, Tuesday, 7:15-9:30am (Section 4), 12:15-2:30pm (Section 5)

The exams are all closed-book but cheat sheets of specified sizes will be allowed.

Before each exam, a study guide along with some practice problems will be provided to you; however, there is no guarantee of any level of similarity with those problems. Thus, it is in your best interest to review for each exam thoroughly.

No make-up exams will be given if you miss a midterm exam. If you have a legitimate excuse (e.g., illness or other personal emergencies) and can provide some kind of proof, the weight of the exam will be incorporated into the final.

Show all your work for homework and tests. Note that it is your work, in terms of *correctness*, *completeness* and *clarity*, that is graded; correct answers with no or poorly written steps will be given very little credit.

The weights used in this course will be as follows:

- Homework: 15%
- Midterm 1: 25%
- Midterm 2: 25%
- Final: 35%

I will introduce a curve at the end of the semester by *combining* the following cutoffs

- A+: 97%, A: 93%, A-: 90%
- B+: 87%, B: 83%, B-: 80%
- C+: 77%, C: 73%, C-: 70%
- D+: 67%, D: 63%, D-: 60%
- F: < 60%

and the actual distribution of the class to assign your course grades.

Extra credit opportunities

Extra credit may be earned (up to 5%) in several ways throughout the semester, at the discretion of the instructor. A few examples are below:

- Pop quizzes at the beginning of some classes (using i-Clicker)
- Bonus homework and test questions
- Special assignments from the instructor (such as the background survey)

Your responsibilities in learning
My duty as an instructor is to disseminate knowledge while helping you learn in all possible ways. The ultimate responsibility of learning is upon the student, not on the instructor. That is, you must make every effort to

- **Attend all classes**: Class attendance is strongly associated with course grade. It will be checked indefinitely throughout the semester by the instructor. If you stop coming to class or miss more than 3 classes, I will submit an alert to Spartan Connect on your behalf.
- **Participate in-class discussions**: These are good opportunities to learn from different perspectives and gain a deeper understanding of the new concepts.
- **Read the textbook before and after class**: First, reading the textbook before class can prepare you well for the slides-based lecture (which tends to move fast). Second, the textbook contains many detailed explanations and good examples that cannot be covered in limited class time. Reading the textbook often can help you better understand the material.
- **Take time to think through the concepts:** This is a critical step in the learning process. Few people could fully grasp all the new material during lectures, and some further thinking is always needed outside class time.
- **Do your homework:** Chance to check your understanding of new material and practice. Most students will learn a lot better after they do the homework.
- **ASK whenever you don't understand something!!!**

Overall, you are expected to spend 6 hours outside class time per week on this course.

Study groups
You are strongly encouraged to form study groups, so that you may learn from each other and collaborate on homework (but you must write independent solutions). If you need help with finding a study partner, let me know.

Special accommodations
If you anticipate needing any special accommodation during the semester (e.g., you have a disability registered with SJSU's Accessible Education Center), please let me know as soon as possible.

Instructor feedback
I strive to teach in the best ways to facilitate your learning. To achieve this goal, it is very helpful for me to receive timely feedback from you. You may talk to me in person or send me an email, or submit your feedback anonymously through http://goo.gl/forms/f0wUD5aZSK.

Disclaimer:
The instructor reserves the final right to interpret, and make changes to, all the policies that are stated in this course syllabus.

Math 161A, Spring 2020 Tentative Class Schedule

Date			Textbook Section	Topic
Jan. 23	R	First class	Introduction	
28	T		2.1	Basic probability concepts
30	R		2.2	
Feb. 4	T	Last day to withdraw w/o a W grade	2.3	
6	R		2.4	
11	T	Last day to add	2.5	
13	R		3.1, 3.2	Discrete random variables
18	T		3.3	
20	R		3.4	
25	T		3.5	
27	R		3.6	
Mar. 3	T	Midterm 1	(2.1 - 3.6)	
5	R		4.1	
10	T		4.2	Continuous random variables
12	R		4.3	
17	T		4.4	
19	R		4.5	
24	T		5.1, 5.3	Joint distributions
26	R		5.4	
3/30 – 4/3		*Spring Recess*	*Relax and have fun*	
Apr. 7	T		1.2	Random samples, Descriptive statistics, Point estimation
9	R		1.3, 1.4	
14	T		6.1	
16	R	Midterm 2	(4.1 - 6.1)	
21	T		7.1	Confidence intervals
23	R	Late drop deadline	7.2	
28	T		7.3	
30	R		8.1	Hypothesis testing
May 5	T		8.2	
7	R	Last class	8.3	
19	T	Comprehensive final	7:15 – 9:30am (Sect. 4) 12:15 – 2:30pm (Sect. 5)	

Total: 29 scheduled classes (including 2 in-class midterms)