

Probability and Statistics in Engineering and Science, STAT 390

This is a fluid syllabus, so
check frequently for changes in **colors**

Instructor: Caren Marzban; **Office:** Padelford B-318

Office Hours and Location:

Mon. 1:00-2:00 at **tutor center** (<http://www.stat.washington.edu/www/tutorcenter/>)

Wednesday 1:00-2:00 at my office (Padelford B-318)

The best way to contact me: marzban at stat.washington.edu .

Class Times and Room: MWThF, 2:30-3:20, EXEC 110.

Quiz/Lab Sessions and TAs: Tuesday in CMU B027.

Section	TA (office)	Email	Off. hours/location
A & B	Minfeng Zhu (PDL A316)	minfeng at stat.washington.edu	Mon. 4-6* Tutor Center
C & D	Ranran Wang (PDL C312)	ranranw at u.washington.edu	Mon.12-1(Tutor Center), Th.10-11 (off

*Because the tutor center closes at 5:30, if there is no student present at that time, Minfeng will leave; otherwise, he will stay until 6PM.

Course webpage: <http://www.stat.washington.edu/marzban/390/>

Consult the webpage frequently, because things change. Look for **colors** .

Text: *Applied Statistics for Engineers and Scientists (2nd Edition)*, by Devore and Farnum. **Do NOT** get other editions.

Buzz words/concepts: Data, histogram, mean, standard deviation, scatterplot, correlation, regression, conditional probability, distribution, binomial, normal, sampling, estimation, inference, confidence interval, hypothesis/significance testing, anova, etc.

Homework: Assigned daily (MWThF) after class, due every Tuesday in quiz session; only the assignments from the previous week are due. Check the course website to find the latest information on HWs and due dates. Begin working on the assignments as soon as you receive them. On homework and/or tests **provide detail in your solutions, not just an answer. An answer, even a correct one, will not get credit if there is no accompanying explanation/derivation/proof.** After you turn in your HW, consult the solutions that I put on the web to see how others (e.g., I and the TAs) would solve the problems.

Computing: Some basic computing will be called for. You won't need to know any in advance, but you will have to learn it during the course. We will use something called R, which is similar to matlab. Other languages are acceptable, but R is much more aligned with statistics. You will need it to do some of the homework assignments, and you **will** get tested on it. Consult the R-stuff on the course webpage.

Grading:

Homework: 15% (after dropping ONE lowest grade)

Pop Quizzes: 15% (after dropping ONE lowest grade)

Test 1: 22%

Test 2: 23%

Test 3/Final Exam: mostly comprehensive: 25%

The final grade will be based on a “curve”; I will explain this in class. All tests, quizzes, and the final are open book/note/everything. Taking all tests/final is an absolute requirement for passing. If a significant number homeworks or quizzes are missing, the final grade will be down-weighted.

General Policy: You’ll find me reasonably flexible, with emphasis on *reasonably*. I don’t want this syllabus to look like a legal contract. Just do what you are supposed to, and don’t do what you are not supposed to; and you know what those are! In general

- Attendance is expected; **don’t send me email questions if you don’t attend lectures**. Also, in one lab session you will analyze some data from a previous quarter, showing that attendance is correlated with grade.

- No makeups. In case of emergency, provide 2-week prior notice.

- No late homeworks.

- No cheating/collaboration (I’m quite inflexible on this one).

Point 1: This course is **NOT** your regular math course! It involves more “words” and qualitative thinking than a typical math course. In fact, mathematical ability does not correlate well with performance in this class.

Point 2: The material begins extremely simple but becomes complex very quickly. So, stay sharp.

Point 3: I believe the best way to truly learn something is to get one’s hands dirtied. Depending on your level of interest, that means anything from doing the assigned problems - at the minimum - to solving more problems from the book. Do try to work out as many problems as you can, because **that is the best way of studying for the tests**.

Point 4: I will follow the text book closely. You are expected to have read the material of the day before I go over it in class. As such, the purpose of my lectures is to review, and to highlight some of the more important but less obvious issues. Following and understanding the lectures is necessary but **NOT** sufficient for understanding the material. Again, the best way for that is to do more problems from the book.

Point 5: Check out the FAQ on the course website for my answers to many of your questions, **before** you send me a suggestion.

NEXT PAGE: Daily schedule for the whole quarter: **It is tentative, so CHECK FREQUENTLY!**

Standard ending, regarding disabilities, etc. ...

Lecture	Date	Reading (Chapters)	Notes
1	9/30	1.1-1.2	
2	10/1	1.2-1.3	
3	10/2	1.3-1.4	Skip 1.5
4	10/5	1.4-1.5	
-	10/6	Lab 1	Chapter 1
5	10/7	1.6	
6	10/8	2.1,2.3	Skip p. 84.
7	10/9	2.1-2.2	
8	10/12	3.1-3.2	
-	10/13	Lab 2	Chapter 2
9	10/14	3.3	
10	10/15	Review	
-	10/16	TEST 1	Up to lecture 7 (inclusive).
11	10/19	3.3-3.4	
-	10/20	Lab 3	Chapter 3
12	10/21	3.4-3.5	
-	10/22	Going over Test 1	Attendance IMPORTANT!
13	10/23	3.5	Skip 3.6
14	10/26	4.1	
-	10/27	Lab 4	More Chapter 3
15	10/28	4.2	Just skim over 4.3.
16	10/29	5.1-5.2	
17	10/30	5.2-5.3	Skip 5.4.
18	11/2	5.5-5.6	More on 5.3, next time.
-	11/3	Lab 5	Chapters 3 and 4
19	11/4	5.3	
20	11/5	5.3	
21	11/6	7.1-7.2	
22	11/9	7.3-7.4	Skip Tolerance Interval on p. 318, and 7.6
-	11/10	Lab 6	Chapter 5
-	11/11	Veterans Day	No Class.
23	11/12	Review	
-	11/13	TEST 2	Up to lect 21 (inclusive); emphasis on latter half.
24	11/16	7.3-7.4	
-	11/17	Lab 7	Chapter 7
25	11/18	7.5,8.1-8.2	Skip 8.4 & subsec. on p. 391 & last subsec. on p. 393.
26	11/19	Going over Test 2	Attendance IMPORTANT!
27	11/20	8.3, 8.5	
28	11/23	9.1-9.2	
-	11/24	Lab 8	Chapters 7 and 8
29	11/25	9.3	Read 9.3, but we'll do it mostly in R. Skip 9.4.
-	11/26	Thanksgiving	No Class.
-	11/27	Thanksgiving	No Class.
30	11/30	11.1-11.2	Skip subsections on p. 496, and 522.
-	12/1	Lab 9	Chapter 8
31	12/2	11.3-11.4	
32	12/3	11.4-11.5	Skip subsections on p. 531, 532.
33	12/4	11.5	skip all of 11.6!
34	12/7	Extra/Cushion Day	
-	12/8	Lab 10	Chapters 9 and 11 LAST HW SET DUE!!
35	12/9	Review/sample test	
36	12/10	Review & course evaluation	
-	12/11	TEST 3/Final Exam	Comprehensive, but with emphasis on latter material.