

STA3032 Applied Statistics for Engineers and Scientists

Spring 2019

Lecture Information:

Instructor: Jonathan Bradley.
Office: OSB 209G
Email: jrbradley@fsu.edu
Lectures: TuTh 11:00AM - 12:15PM, HCB 0208
Office Hours: M 10:30AM 12:30PM or by appointment
Course website: Canvas

Teaching Assistant:

TA: Sutanoy Dasgupta (s.dasgupta@stat.fsu.edu)
Office: OSB 104 C
Office Hour: Tu 3:00PM 4:00PM or by appointment

Required Textbook:

- *Statistics for Engineers and Scientists* (Fourth Edition), by William Navidi. (ISBN: 9780073401331, Publisher: McGraw-Hill Education)

Course Description: This course will cover calculus-based probability, discrete and continuous random variables, sampling distributions, the central limit theorem, and the basic statistical inference. Topics include descriptive statistics, interval estimates, hypothesis tests, ANOVA, correlation, simple and multiple regression, and analysis of categorical data. In addition, if time allows, the course will introduce how to use software such as R to solve statistical problems.

Prerequisites: MAC 2312 (Calculus II)

Grades:

Your final grade will be calculated from a total of 400 possible points as follows:

Midterm	100 points
Final exam	120 points
Quizes	40 points
Homework Assignments	140 points (approximately 8 assignments in total)

Notes:

1. The midterm is tentatively scheduled in week 8. The midterm will be taken in class (75 min). The midterm is closed book, but you are allowed to bring a piece of paper 8 by 11.5 inches, 2 sided).
2. The final exam is scheduled on May 3 (Friday), from 7:30AM to 9:30AM. The final exam is cumulative, but will put more weights on the last part (materials after the Midterm). You are allowed to bring either (1) textbook, **OR** (2) three pieces of paper.
3. Homework should be handed in by the due date at the BEGINNING of the class. NO LATE HOMEWORK WILL BE ACCEPTED. Group discussions are encouraged, but you have to write up your own solutions. You are allowed to drop the lowest score of the assignments.
4. Each week a Pop Quiz will be given and will consist of three questions. These quizzes will be given at the end of the class.

Letter grades will be assigned according to the following scale:

Grade	Point Percentage	Total Points
A	93% -100%	372 - 400
A-	90% - 93%	360 – 371
B+	87% - 90%	348 – 359
B	83% - 87%	332 – 347
B-	80% - 83%	320 – 331
C+	77% - 80%	308 - 319
C	73% -77%	292 – 307
C-	70% - 73%	280 – 291
D+	67% - 70%	268– 279
D	63% - 67%	252- 267
D-	60% - 63%	240 – 251
	< 60%	< 240

Tentative Schedule (see Canvas for the updates):

Week	Day	Date	Topic	HW Due
1	Tuesday	1/8	Introduction	
	Thursday	1/10	Data Summaries (Chapter 1)	
2	Tuesday	1/15	Probability (Chapter 2: 2.1 – 2.3)	
	Thursday	1/17		HW1
3	Tuesday	1/22	Random Variables and Distributions (Chapter 2: 2.4 – 2.6, part of Chapters 3 and 4)	
	Thursday	1/24		
4	Tuesday	1/29	Inference for Population Mean (Central Limit Theorem, Confidence Intervals; 4.11 and Chapter 5: 5.1, 5.3)	HW2
	Thursday	1/31		
5	Tuesday	2/5	Inference for Population Mean (Hypothesis Test; Chapter 6: 6.1, 6.2, 6.4)	
	Thursday	2/7		HW3
6	Tuesday	2/12	Hypothesis Test (Chapter 6: 6.12 – 6.14)	
	Thursday	2/14		
7	Tuesday	2/19	Inference for Mean Difference (5.4, 5.6, 5.7)	
	Thursday	2/21		HW4
8	Tuesday	2/26	Midterm Review	
	Thursday	2/28	Midterm	
9	Tuesday	3/5	Inference for Population Proportion (Chapter 5: 5.2; Chapter 6: 6.3)	
	Thursday	3/7		
	Tuesday	3/12	Inference for Categorical Counts (Chap. 6: 6.10)	HW5
	Thursday	3/14		
10	Tuesday	3/19	Spring Break, no class	
	Thursday	3/21	Spring Break, no class	
11	Tuesday	3/26	Regression (Chapters 7 and 8)	
	Thursday	3/28		HW6
12	Tuesday	4/2	Design of experiments (Chapter 9).	
	Thursday	4/4		
13	Tuesday	4/9	Use R to do Regression	HW7
	Thursday	4/11		
14	Tuesday	4/16	Use R to do design of experiments	
	Thursday	4/18	Regression/Design of Experiments (overview)	
15	Tuesday	4/22		
	Thursday	4/24	Final Review	
16	Thursday	5/3	Final Exam (7:30AM – 9:30AM; HCB 0208)	

University Attendance Policy:

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor Policy:

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to ". . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic Honor Policy>.)

Americans With Disabilities Act:

Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class. This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306 4167
(850) 644 9566 (voice)
(850) 644 8504 DD
sdrc@admin.fsu.edu
<http://www.disabilitycenter.fsu.edu/>