

Math 115

Introduction to Statistics

Spring 2019

Textbook: Moore, Notz, Fligner, *The Basic Practice of Statistics*, 7e, Freeman, 2015.

Wk	Date	Chapter	Problems	Due Date	Topics
1	W 2/6	1	6, 8, 10, 12, 27, 28, 33, 36, 38, 43	M 2/11	Descriptive statistics: graphical Cat/quant vars; bar graph, stemplot, histogram, time series
	F 2/8	2	4-7, 9, 10-13, 29, 33	W 2/13	Descriptive statistics: numerical - shape/center/spread; mean, median, std dev, IQR, outliers, boxplot
2	M 2/11	3	4, 6-8, 10, 11, 14, 28, 30	F 2/15	Normal distributions z-scores, reading table
	W 2/13	4	1, 8, 10ab, 13, 37-39	M 2/18	Scatterplots, correlation
	F 2/15	L	Lab 1	W 2/20	Lab 1: Descriptive statistics, scatterplots, correlation add deadline
3	M 2/18	5	1, 5, 9, 15, 17, 34, 35, 55, 56	F 2/22	Regression SD-line, least-sq regr line for y on x, residuals
	W 2/20	6	1, 3, 5, 6, 20-22, 26, 30	M 2/25	Two-way/crosstabs/contingency tables marginal/conditional distributions
	F 2/22	L	Lab 2	F 3/1	Lab 2: Regression regression line, residual plot
4	M 2/25	7	<i>Read Ch. 7 Summary</i>		<i>Review</i>
	W 2/27		Exam 1		Exam 1: Descriptive Statistics
	F 3/1	8	13, 14, 16, 37, 43, 45, 47, 48	W 3/6	Sampling methods Gallup Poll, bias, quota, SRS, stratified, multistage cluster
5	M 3/4	9	6, 7, 12-14, 45, 46, 50	F 3/8	Design of experiments drop w/o Tues. Subject, factor, treatment, placebo, blind, double-blind; Obs. Study, Rand. Controlled, Matched Pairs, Rand. Block
	W 3/6	12	10, 12, 13, 15-17, 20, 32, 34, 37, 47, 51, 52	W 3/13	Probability Random phenomena, sample space, event, prob. model, axioms, random variable
	F 3/8	12	-	-	Discrete and continuous random variables Prob. distributions: histogram, density curve
6	M 3/11	15	2, 5-9, 11, 13, 35, 36, 38	M 3/18	Sampling distributions, Law of Large Numbers
	W 3/13	15	-	-	Sampling distribution of Sample Mean, Central Limit Theorem

	F 3/15	16	1, 2, 4, 5, 7, 10, 19, 21-23	W 3/20	Confidence intervals C, z^* , margin of error
7	M 3/18	19	<i>Read Ch. 19 Summary</i>		<i>Review</i>
	W 3/20		Exam 2		Exam 2: Probability
	F 3/22	17	1, 3, 11, 14, 16, 17, 30, 33, 44, 45	W 4/3	Significance tests H_0 , H_a , test statistic z , P-value, α sig. level half sem
	S 3/23 – N 3/31		Spring Break		
8	M 4/1	18	2, 6, 8-10, 12, 13, 33, 36	F 4/5	One-sample z -test Assumptions of z -test, stat sig \neq practical sig. (power)
	W 4/3	20	1-5, 7, 8abc, 10-12, 38, 41	M 4/8	Inference for means, one-sample t -test, matched pairs
	F 4/5	21	1-5, 7, 13, 15, 29, 43	W 4/10	Comparing two means, two-sample t -tests
9	M 4/8	L	Lab 3	F 4/12	Lab 3: Inference for means, t -tests drop w/ Tues.
	W 4/10	22	4, 6, 7, 9-11, 39, 41	M 4/15	Inference for proportions
	F 4/12	23	1, 2, 4, 5, 18, 20, 35	W 4/17	Comparing two proportions
10	M 4/15	25	1, 5, 7, 11, 12, 14, 15	F 4/26	Chi-square test of independence
	W 4/17	25	-	-	Chi-square goodness-of-fit test
	F 4/19 – M 4/22		Easter Break		
11	W 4/24	L	Lab 4	W 5/1	Lab 4: Chi-square tests
	F 4/26	24	<i>Read Ch. 24 Summary</i>		<i>Review</i>
13	M 4/29		Exam 3		Exam 3: Inference
	W 5/1	27	3, 4, 7, 8, 10, 12	W 5/8	One-way ANOVA for comparing several means, F test
	F 5/3	27	-	-	ANOVA F -statistic discuss final project: handout/pdf with links

14	M 5/6	L	Work on final project, import data set into SPSS	W 5/8	search for data sets, import data by W 5/8
	W 5/8	L	Submit prospectus for final project	F 5/10	Explore data, submit prospectus by F 5/10 , 10pm
	F 5/10		<i>Research Day – no classes</i>		
15	M 5/13	L	<i>Evaluations</i>		work on final project
	W 5/15	L			work on final project
	F 5/17	L			work on final project
115A: M 5/20, 10:15-12:15 p.m. 115C: W 5/22, 1:15-3:15 p.m.				Final Project: Poster Presentations	