

Tentative Stat 11 Fall 2006 Calendar
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			Examples	Readings
<u>1. Describing data</u>				
1	4 Sep M	Introduction What is statistics? Introductions and logistics	Growth in jobs	1, 2
2	6 Sep W	Describing distributions Histograms Mean, median, mode Standard deviation	Class survey data	3, 4, 5
3	8 Sep F	Comparing distributions Percentiles Boxplots Linear transformations	Class survey data	5
4	11 Sep M	The Normal distribution Standardizing The Normal distribution Calculating Normal probabilities	Ted Williams, Ty Cobb	6
5	13 Sep W	Scatterplots and correlation Calculating Normal probabilities Scatterplots Correlation	Dear Abby US cities Love match quiz	6, 7
6	15 Sep F	Visualizing data Principles of graphical design Data and chartjunk Lying with graphics	Space shuttle	3, 4
<u>2. Collecting data</u>				
7	18 Sep M	Experiments and Observational Studies Controlled experiments Observational studies Lurking variables	Smoking and lung cancer Cell phones and cancer SAT scores by state Dog food taste test	11, 13
8	20 Sep W	Principles of experiments Control groups and placebos Randomization Matched pairs	Dandruff shampoos	11, 13
9	22 Sep F	More on experiments From observational study to experiment Ethics and experimentation	Ovarian cancer Menstrual synchrony Milgram's experiment	13
10	25 Sep M	Sampling Population/sample, parameter/statistic Simple random samples Sampling biases	Kenny G poll The Hite report Hand washing	12
<u>3. Measuring variability</u>				
11	27 Sep W	Probability Disjoint events Independent events Addition and multiplication rules	Who wants to be a millionaire?	14, 15
12	29 Sep F	Conditional probability Conditional probability False positives and false negatives Estimating rare events	AIDS testing	15
13	2 Oct M	Sampling distributions Estimators and sampling distributions Expected value and variance	Nazi tanks Class size Dinosaur extinctions	17, 18
14	4 Oct W	Sampling distributions Random variables Expected value Sampling distribution of p-hat Margin of error	Presidential opinion poll Cat on a leash	12, 16, 18
<u>4. Methods for proportions</u>				
15	6 Oct F	Sampling distribution of a proportion Sampling distribution of a proportion	Swat admissions Jury selection discrimination	16, 18
16	9 Oct M	Confidence intervals for a proportion Confidence intervals for p Population size and sample size	Earth surface water Soup tasting	18, 19 12
17	11 Oct W	More on confidence intervals Formal derivation of CIs Interpreting confidence intervals	Lying on resumes	19
18	13 Oct F	Hypothesis tests Proof by contradiction	ESP	20

		Hypothesis tests for a proportion p-values		
	16–20 Oct	<i>No class: Fall break</i>		
	23 Oct M	<i>No class; prepare on your own for midterm</i>		
	24 Oct Tu	<i>optional review session</i>		
	25 Oct W	Midterm 1		
19	27 Oct F	More on hypothesis tests Hypothesis tests for a proportion One-sided vs two-sided hypotheses What do hypothesis tests mean? Relating tests and confidence intervals	Wall Street dartboard	20, 21
20	30 Oct M	Linear combinations Linear combinations Expected values and SDs	cereal boxes	16
21	1 Nov W	Comparing two population proportions Hypothesis tests for two population proportions	Race and hiring discrimination	22
22	3 Nov F	Comparing two population proportions Confidence intervals for $p_1 - p_2$	A Civil Action	22
		5. Methods for means		
23	6 Nov M	Sampling distribution of a mean Sampling distribution of a sample mean Central Limit Theorem	Atkins low-carb diet Lightbulbs	18
24	8 Nov W	Confidence intervals for a mean Sampling distribution of a sample mean Confidence intervals for μ (σ known)	Ski gondolas Speed of light	23
25	10 Nov F	CIs and Hypothesis Tests for a mean The t distribution Confidence intervals for μ (σ unknown)	Speed of light Blackout baby boom	23
26	13 Nov M	Hypothesis tests for a mean Hypothesis tests for μ	Blackout baby boom	23
27	15 Nov W	Comparing means of two populations Comparing means of two populations Comparing means for matched pairs	Celebrity ads Atkins low-carb diet	24 25 (read)
28	17 Nov F	Type I and type II errors Type I and type II errors	Guilt vs Innocence False positive hysterectomies	21
29	20 Nov M	Power Power		
	21 Nov Tu	<i>optional review session</i>		
	22 Nov W	Midterm 2		
	24 Nov F	<i>No class: Thanksgiving</i>		
		6. Studying relationships		
30	27 Nov M	Comparing several population means Variability between vs. within groups The Analysis of Variance (ANOVA)	Of mice and music	28
31	29 Nov W	Comparing several population means ANOVA calculations	Body image	28
32	1 Dec F	Regression From ANOVA to regression Sampling distributions of regression coefficients		27
33	4 Dec M	Finding the best-fitting line The least-squares criterion The regression line: slope and intercept Reading regression output	Colleges	8
34	6 Dec W	Inference for regression Tests and CIs for regression coefficients Regression assumptions Residual plots	Colleges Girls' heights	8, 27
35	8 Dec F	How well does the regression line fit? Conditional SD Correlation and R-squared	Colleges Pizza prices	8
36	11 Dec M	More on regression Transforming data Outliers Multiple regression Collinearity	Forbes 500 companies Dinosaur extinction Heptathlon	10, 30, 31