

Unit 1: Exploring and Modeling Data
AP Statistics

FRAPPY due 1/14
Problem Set due 1/15

Chapter 1: Exploring Data

Date	Class Schedule	Objectives	Homework Assigned
1/6	Introduction	- Identify the individuals and variables in a set of data - Identify each variable as categorical or quantitative	Read: Section 1.1
1/7	Displaying Distributions with Graphs	- Make and interpret bar graphs, pie charts, dot plots, stem plots, and histograms of distributions of a categorical variable - Look for overall patterns and skewness in a distribution given in any of the above forms	Read: Section 1.2
1/8	Describing Distributions	- Give appropriate numerical measures of central tendency and dispersion - Recognize outliers - Compare distributions using graphical methods - Use graphing calculator to obtain summary statistics	Read: Section 1.3 Do: AP Problems (handed out in class)

Chapter 2: Modeling Distributions of Data

Date	Class Schedule	Objectives	Homework Assignment
1/9	Chapter 1 Mini Quiz Describing Location in a Distribution	- Find and interpret the percentile of an individual value within a distribution of data - Estimate percentiles and individual graphs using a cumulative relative frequency graph - Find and interpret the standardized score (z-score) of an individual value within a distribution of data - Describe the effect of transformations on the shape, center, and spread of a distribution of data.	Read: Section 2.1
1/12	The Normal Distribution	- Know that areas under a density curve represent proportions - Approximate median and mean on a density curve - Recognize the shape and significant characteristics of a normal distribution, including the 68-95-99.7 rule	Read: Section 2.2 (p. 109-124)
1/13	Standard Normal Calculations	- Find proportion of z-values in a specified interval or a z-score from a percentile using Table A or technology - Find the proportion of values in a specified interval or the value that corresponds to a given percentile using Table A or technology - Determine whether a of data is approximately normal from graphical and numerical evidence	Read: Section 2.2 (p. 125-138) FRAPPY Due 1/14
1/14	Review	For problem set: *compare your work to solutions on website and correct in colored pen for full credit*	Problem Set Due 1/15
1/15	Chapter 1-2 Exam		

Chapter 4: Designing Studies
AP Statistics

FRAPPY due 1/23
Problem Set due 1/26

Date	Class Schedule	Objectives	Homework Assigned
1/16	Sampling Design	- Identify populations and samples in sampling situations - Identify different methods of sampling, strengths and weaknesses of each, and possible bias that might result from sampling issues	Read: 4.1
1/20	Stratification Design	Identify different methods of sampling, strengths and weaknesses of each, and possible bias that might result from sampling issues	Read: 4.1
1/21	Experimental Design	- Recognize the difference between an observational study and an experiment - Identify and explain the key elements of an experiment (units, variables, treatments, comparison, random assignment, control, replication)	Read: 4.2
1/22	Blocking Design	- Design randomized experiments - Explain how to design an experiment to support cause and effect relationships - Recognize confounding of variables and the placebo effect, explain when double-blind and block design would be appropriate	Read: 4.2 FRAPPY Due 1/23
1/23	Cumulative Review Chapter 1,2,4	For problem set: *compare your work to solutions on Canvas and correct in colored pen for full credit*	Problem Set Due 1/26
1/26	Ch. 4 Assessment		

Chapter 5: Probability
AP Statistics

FRAPPY due 2/3
Problem Set due 2/4

Date	Class Schedule	Objectives	Homework Assigned
1/27	Introduction to Probability Randomness, Probability and Simulation	- Describe and generate sample spaces for random events - Use tree diagrams, Venn diagrams and counting techniques in solving probability problems - Interpret probability as a long run relative frequency - Use simulation to model chance behavior	Read 5.1
1/28-1/30	General Probability Rules	- Use tree diagrams, Venn diagrams and counting techniques in solving probability problems - Apply the basic rules of probability - Use multiplication and addition rules of probability appropriately - Identify disjointed, complementary, and independent events	Read 5.2
2/2	Conditional Probability and Independence	- Find marginal distributions from a two-way table - Describe the relationship between categorical variables using percents - Calculate conditional probabilities and check for independence	Read 5.3 FRAPPY due 2/3
2/3	Probability Review	For problem set: *compare your work to solutions on Canvas and correct in colored pen for full credit*	Read 5.3 Work on problem set Problem Set Due 2/4
2/4	Chapter 5 Test		

Chapter 6: Random Variables
AP Statistics

FRAPPY due 2/13
Problem Set due 2/18

Date	Class Schedule	Objectives	Homework Assigned
2/5	Discrete and Continuous Probability	• Compute probabilities using the probability distribution of a discrete random variable. • Calculate and interpret the mean (expected value) and the standard deviation of a discrete random variable.	Read 6.1
2/6	Combining and Transforming Random Variables	• Describe the effects of transforming a random variable by adding or subtracting a constant and multiplying or dividing by a constant. • Find the mean and standard deviation of the sum or difference of independent random variables.	Read 6.2
2/9	Normal Probability Distributions	• Compute probabilities using the probability distribution of certain continuous random variables. • Find probabilities involving the sum or difference of independent Normal random variables.	Read 6.2
2/10	Mini Quiz Binomial Probability	• Verify four conditions of a binomial distribution: two outcomes, fixed number of trials, independent trials, and the same probability of success for each trial • Calculate cumulative distribution functions, cumulative distribution tables and histograms, means and standard deviations of binomial random variables • Use a normal approximation to the binomial distribution to compute probabilities	Read 6.3
2/11	Geometric Probability	• Verify four conditions of a geometric distribution: two outcomes, the same probability of success for each trial, independent trials, and the count of interest is the number of trials required to get the first success • Calculate cumulative distribution functions, cumulative distribution tables and histograms, means and standard deviations of geometric random variables	Read 6.3
2/12	Review	For problem set: *compare your work to solutions on website and correct in colored pen for full credit*	FRAPPY due 2/13
2/13	Review	For problem set: *compare your work to solutions on website and correct in colored pen for full credit*	Problem Set Due 2/18
2/18	Probability Test (Chapters 5, 6)		

Chapter 7: Sampling Distributions
AP Statistics

FRAPPY due 2/24
Problem Set due 2/25

Date	Class Schedule	Objectives	Homework Assigned
2/19	Sampling Distributions	Identify parameters and statistics in a sample Interpret a sampling distribution, including bias and variability and how to influence each	Read 7.1
2/20	Sample Proportions	Recognize when a problem involves a sample proportion Analyze problems involving sample proportions, including using the normal approximation to calculate probabilities	Read 7.2
2/23	Sample Means	Recognize when a problem involves sample means Analyze problems involving sample means and understand how to use the central limit theorem to approximate a normal distribution	Read 7.3 FRAPPY due 2/24
2/24	Review	For problem set: *compare your work to solutions on website and correct in colored pen for full credit*	Problem Set Due 2/25
2/25	Chapter 7 Test		

Chapter 8: Confidence Intervals
AP Statistics

FRAPPY due 3/4
Problem Set due 3/5

Date	Class Schedule	Objectives	Homework Assigned
2/26-2/27	Confidence Intervals for Proportions	Construct and interpret confidence intervals for proportions in context. Describe how sample size and confidence interval affect the length of a confidence interval.	Read 8.1 and 8.2
3/2	Confidence Intervals for Means	Construct and interpret a confidence interval for a population mean. Determine critical values.	Read 8.3 FRAPPY due 3/4
3/3	Review		
3/4	Review		FRAPPY due 3/4
3/5	Chapter 8 Test		Problem Set due 3/5

Chapter 9: Significance Tests
AP Statistics

FRAPPY DUE 3/11
PROBLEM SET DUE 3/12

Date	Class Schedule	Objectives	Homework
3/6	Significance Tests	State null and alternative hypotheses in a testing situation involving a population mean. Explain Type I, Type II error and power significance testing. Interpret P-value in context.	Read section 9.1
3/9	Significance Tests for Proportions	Perform a significance test about a population proportion.	Read section 9.2
3/10	Significance Tests for Means	Perform a significance test about a population mean. Perform a significance test about a mean difference using paired data.	Read section 9.3 FRAPPY due 3/11
3/11	Review		Problem Set due 3/12
3/12	Chapter 8-9 Test		

Chapter 10: Comparing Two Groups or Populations
AP Statistics

FRAPPY DUE 3/21
PROBLEM SET DUE 3/24

Date	Class Schedule	Objectives	Homework
3/13	Confidence Intervals for Two Proportions	Describe the distribution between two proportions Construct and interpret a confidence interval for two proportions	Read 10.1
3/18	Significance Tests for Two Proportions	Perform a significance test to compare two proportions	Re-read 10.1 <i>Study for mini quiz</i>
3/19	Confidence Intervals for Two Means	Describe the distribution between two means Construct and interpret a confidence interval to compare two means	Read 10.2
3/20	Significance Tests for Two Means	Perform a significance test to compare two means Determine when it is appropriate to use two sample t procedures versus paired t tests	Re-read 10.2 FRAPPY due 3/21
3/23	Review		Problem Set Due 3/24
3/24	Chapter 10 Test		Cumulative Practice Test (page 669-675) <i>Do not answer #19, 23, 33</i>
3/25	Review		
3/26	Cumulative Exam <i>(Emphasis on 8-10)</i>		

Chapter 11: Inference for Distributions of Categorical Data
AP Statistics

FRAPPY DUE 3/31
PROBLEM SET DUE 4/1

Date	Class Schedule	Objectives	Homework
3/27	Chi Square Goodness of Fit	Perform a chi-square test for goodness of fit. Conduct a follow up analysis when the results of a chi square test are statistically significant.	Read 11.1
3/30	Chi Square with Two Way Tables	Compare conditional distributions in two-way tables. Perform a chi-square test for homogeneity. Perform a chi-square test for independence.	Read 11.2 FRAPPY due 3/31
3/31	Review		Problem Set Due 4/1
4/1	Chapter 11 Test		

Chapter 3 and 12: Inference for Regression
AP Statistics

FRAPPY DUE 4/20
PROBLEM SET DUE 4/21

Date	Class Schedule	Objectives	Homework
4/2	Start reviewing for ap exam	Spring break packet	
4/3	Start reviewing for ap exam	Spring break packet	
4/13	Relationships between Two Variables: Scatterplots and Correlation	Identify explanatory and response variables. Make and analyze scatter plots to assess a relationship between two quantitative variables. Find and interpret the correlation r between two quantitative variables. Use technology to calculate correlation Explain why correlation/association does not imply causation.	Read 3.1
4/14	Least Squares Regression	Find and analyze regression lines. Use regression lines to predict values and assess the validity of these predictions. Determine the equation of a least-squares regression line using technology. Calculate residuals and use their plots to recognize unusual patterns. Interpret and analyze the standard deviation of the residuals and r^2 Find the slope and y intercept of the least squares regression line.	Read 3.2
4/15	Mini Quiz Confidence Interval for Slope	Construct and interpret a confidence interval for the slope of the true regression line. Interpret the values a, b, s, SE, and r^2 in context.	Read 12.1
4/16	Significance Tests for Slope	Perform a significance test about the slope of a true regression line.	Read 12.1
4/17	Transforming to Achieve Linearity	Use transformations involving powers, roots, and logarithms that describe the relationship between two variables. Determine which of several transformations does a better job of producing a linear relationship.	Read 12.2 FRAPPYs for chapter 3 and 12 due 4/20

4/20	Review		Problem Set due 4/21
4/21	Chapter 3, 12 Test		

11Days of Review

4/22	Go over Take home practice test
4/23	Probability
4/24	Probability
4/27	<i>Independent Practice</i>
4/28	<i>Independent Practice</i>
4/29	<i>Independent Practice</i>
4/30	Practice AP Exam MC for a grade
5/1	Practice AP Exam FRQs for a grade
5/4	Go over Practice Exam
5/5	<i>Independent Practice</i>
5/6	<i>Independent Practice</i>
5/7	AP STATS EXAM