

Unit 6 – Inference for Categorical Data: Proportions

15 – 20% Exam Weight

Day	Lesson and Objectives	Assignment
1/7	Opening Activity <ul style="list-style-type: none"> • Introduction to Confidence Intervals – A Simulation 	
1/8	Notes 1 – Confidence Interval for a Proportion <ul style="list-style-type: none"> • UNC-4.A Identify an appropriate confidence interval procedure for a population proportion. • UNC-4.B Verify the conditions for calculating confidence intervals for a population proportion. • UNC-4.D Calculate an appropriate confidence interval for a population proportion. • UNC-4.E Calculate an interval estimate based on a confidence interval for a population proportion. • UNC-4.F Interpret a confidence interval for a population proportion. 	HW 1
1/9	Notes 2 – Margin of Errors <ul style="list-style-type: none"> • UNC-4.C Determine the margin of error for a given sample size and an estimate for the sample size that will result in a given margin of error for a population proportion. • UNC-4.H Identify the relationships between sample size, width of a confidence interval, confidence level, and margin of error for a population proportion 	HW 2
1/10	Activity: Confidence Levels with Yellow M&Ms <ul style="list-style-type: none"> • Complete this activity in class with students. • Any questions that cannot be done in class are assigned as homework. 	
1/13 and 1/14	Notes 3 – Introduction to Significance Tests <ul style="list-style-type: none"> • VAR-6.D Identify the null and alternative hypotheses for a population proportion. • VAR-6.E Identify an appropriate testing method for a population proportion. • VAR-6.F Verify the conditions for making statistical inferences when testing a population proportion. 	HW 3
1/15 to 1/21	Semester 1 Review *Reminder: Any test corrections or retakes must be completed by 3:15 pm on Friday 1/17 *Reminder: Semester 1 Exam will cover Unit 1-5 (Unit 6 will be on the Semester 2 Exam) *Various Exam Review Materials will be given out. Any worksheets will be due the day of the final exam.	TBD

1/28	<p>Notes 4 – Conducting a Significance Test for Proportions</p> <ul style="list-style-type: none"> • VAR-6.G Calculate an appropriate test statistic and p-value for a population proportion. • DAT-3.A Interpret the p-value of a significance test for a population proportion. • DAT-3.B Justify a claim about the population based on the results of a significance test for a population proportion. 	HW 4
1/29	<p>Confidence Intervals & Significance Tests Matching Activity</p> <ul style="list-style-type: none"> • Students complete a matching activity for various inference problems <p>In Class Multiple Choice Practice</p> <ul style="list-style-type: none"> • Multiple choice practice problems for confidence intervals and significance tests for proportions 	Finish multiple choice practice problems
1/30	Unit 6 Quiz	
1/31	<p>Notes 5 – Errors and Power</p> <ul style="list-style-type: none"> • UNC-5.A Identify Type I and Type II errors • UNC-5.B Calculate the probability of a Type I and Type II errors • UNC-5.C Identify factors that affect the probability of errors in significance testing. • UNC-5.D Interpret Type I and Type II errors. 	HW 5
2/3 and 2/4	<p>Notes 6 – Relationship between Confidence Intervals and Significance Tests</p> <ul style="list-style-type: none"> • UNC-4.G Justify a claim based on a confidence interval for a population proportion. 	HW 6
2/5	<p>Activity: Exploring P-Value and Type I Error with M&Ms</p> <ul style="list-style-type: none"> • Complete this activity in class with students. • Any questions that cannot be done in class are assigned as homework. 	
2/6	<p>Notes 7 – Confidence Intervals for a Difference in Proportions</p> <ul style="list-style-type: none"> • UNC-4.I Identify an appropriate confidence interval procedure for a comparison of population proportions. • UNC-4.J Verify the conditions for calculating confidence intervals for a difference between population proportions. • UNC-4.K Calculate an appropriate confidence interval for a comparison of population proportions. • UNC-4.L Calculate an interval estimate based on a confidence interval for a difference of proportions. • UNC-4.M Interpret a confidence interval for a difference of proportions. • UNC-4.N Justify a claim based on a confidence interval for a difference of proportions. 	HW 7

2/7	<p>Notes 8 – Significance Tests for a Difference in Proportions</p> <ul style="list-style-type: none"> • VAR-6.H Identify the null and alternative hypotheses for a difference of two population proportions. • VAR-6.I Identify an appropriate testing method for the difference of two population proportions. • VAR-6.J Verify the conditions for making statistical inferences when testing a difference of two population proportions • VAR-6.K Calculate an appropriate test statistic for the difference of two population proportions. • DAT-3.C Interpret the p-value of a significance test for a difference of population proportions • DAT-3.D Justify a claim about the population based on the results of a significance test for a difference of population proportions 	HW 8
2/10	<p>Unit 6 Circuit Activity</p> <ul style="list-style-type: none"> • Complete the circuit activity in class 	
2/11	<p>Unit 6 Summary</p> <ul style="list-style-type: none"> • Unit 6 Summary Slides with Student Handout • Work on Test Review for the rest of class 	Test Review due the day of the test
2/12	<p>Introduce Project</p> <ul style="list-style-type: none"> • Go over project requirements at the start of class <p>Unit 6 Trivia Game</p> <ul style="list-style-type: none"> • Students will practice multiple choice problems in teams in a trivia game 	Project Due Thursday 2/20
*2/13	<p>Unit 6 Test</p>	*All Unit 6 Assignments Due Today!