Math Department Curriculum Map Template, 2018-19

Subject: Advanced Placement Statistics
Textbook: Understandable Statistics

Marking Periods	Unit Title (Big Idea/Major Focus)	Topics/Skills	Evidence of Learning (Assessments)	Resources (texts, online tools, etc.)
Marking Period 1	**Unit 1: Graphical Displays**	• Box-whisker plots • Stemplot • Histograms • Bar Charts • Dotplot	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	Text: Understandable Statistics Websites: Laying the foundation and apcentral.collegeboard.com
	Unit 2:Linear Regression	• Correlation • Least Square Regression line (Slope & y-intercept) • Residuals -Residuals Graphs	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
	Unit 3:Designing Experiments	• Bias • Observation-versus-Experiment • Random Sampling	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
	Unit 4: Normal Distribution	• Empirical Rule (68-95-99) • Convert to z-score • Sampling Distribution for means and the Central Limit Theorem	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
Quarterly #1				
Marking Period 2	**Unit 5: Elementary Probability Theory**	• Addition and Multiplication Rule for Probability • Independent versus Mutually Exclusive • Conditional Probability • Tree Diagrams	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
	Unit 6: Binomial Probability Distribution	• Probability of an event happening EXACTLY on one occasion • Probability of an event happening on more than one or at least one occasion where n is a integer • Probability of an event happening using the z-score	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
	Unit 7: Introduction to Sampling Distribution	• Finding the mean and standard deviation for the sampling distribution for proportions • Find the probability that the sample proportion will be more than or less than the population proportion	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
	Unit 8: Estimation	• One-Sample: State the conditions that must be met in order to perform a confidence interval • Determine the critical values for 90-95-98-99 percent confidence intervals • One-Sample: Use the formula for proportion or means to construct the interval • One-Sample: Interpret the interval that was constructed in context	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	

		• Two-Samples: State the conditions that must be met in order to perform a confidence interval • Two-Samples: Use the formula to construct the interval • Interpret the meaning of the interval and describe if there is evidence to suggest that the first population mean or population proportion is greater than, less than, or not different from the second population mean or population proportion		
Midterm				
Marking Period 3	**Unit 9: Hypothesis Testing**	• Definition of alpha and beta • Definition of Type I and Type II errors • State the null and alternative hypothesis • State the conditions for the hypothesis test • Using the formula, compute the test statistic • Find the p-value and compare this value to the alpha. • Make a proper conclusion	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
	Unit 10: Chi-squared Distribution	• Describe the Chi-squared distribution • Discussion of independence and goodness of fit • Find the expected values • State the conditions needed to perform a chi-squared test • Using the formula, compute the test statistic • Find the p-value and compare this value to the alpha • Make a proper conclusion	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
	Unit 11: Correlation and Regression revisited	• Interpret the slope and correlation of the LSRL • Construct and interpret the confidence interval for the slope of the regression line • Hypothesis test for slope • Interpret the coefficients in the Minitab output	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
	Quarterly # 3			
	Review Unit	• Re-engagement with high priority topics and practice A.P exams	❑ Classwork ❑ Discussion ❑ Participation ❑ Quizzes ❑ Exam	
Advanced Placement Examination				
Marking Period 4	**Unit 12: Student Projects**	• Varies	• Student Presentations	