AP Statistics Subject Group Overview - Semester 1

Unit Name	1- Variable Data	Normal Distribution	2- Variable Data	Designing Studies	Probability/Random Variables
Time Frame	4 weeks	2 weeks	4 weeks	3 weeks	2 weeks
Standards AP Topics	I. Exploring Data: Describing patterns and departures from patterns	III. Anticipating Patterns: Exploring random phenomena using probability and simulation	I. Exploring Data: Describing patterns and departures from patterns	II. Sampling and Experimentation: Planning and conducting a study	III. Anticipating Patterns: Exploring random phenomena using probability and simulation
Content Specific Information	Constructing and interpreting graphical displays of distributions of univariate data (dotplot, stemplot, histogram, cumulative frequency plot) (Center and spread, Clusters and gaps, Outliers and other unusual features, Shape) Summarizing distributions of univariate data (Measuring center: median, mean, Measuring spread: range, interquartile range, standard deviation, Measuring position: quartiles, percentiles, standardized scores, Using boxplots) Comparing distributions of univariate data (dotplots, back-to-back stemplots, parallel boxplots)	The normal distribution Properties of the normal distribution Using tables of the normal distribution The normal distribution as a model for measurements	Exploring bivariate data Analyzing patterns in scatterplots Correlation and linearity Least-squares regression line Residual plots, outliers, and influential points Transformations to achieve linearity: logarithmic and power transformations	Planning and conducting surveys Characteristics of a well-designed and well-conducted survey Sources of bias in sampling and surveys, sampling methods, including simple random sampling, stratified random sampling, and cluster sampling Planning and conducting experiments Characteristics of a well-designed and well-conducted experiment, treatments, control groups, experimental units, random assignments, and replication Sources of bias and confounding, including placebo effect and blinding	Interpreting probability, including long-run relative frequency interpretation "Law of Large Numbers" concept, addition rule, multiplication rule, conditional probability, and independence Discrete random variables and their probability distributions, including binomial and geometric Simulation of random behavior and probability distributions Mean (expected value) and standard deviation of a random variable, and linear transformation of a random variable Combining independent random variables
Common Assessments / Major Projects	Test # 1	Test # 2	Test #3	Semester 1: Survey Project	Test # 4
Resources	The Practice of Statistics 5th edition AP College Board	The Practice of Statistics 5th edition AP College Board	The Practice of Statistics 5th edition AP College Board	The Practice of Statistics 5th edition AP College Board	The Practice of Statistics 5th edition AP College Board

AP Statistics Subject Group Overview - Semester 2

Unit Name	Sampling Distributions	Estimating with Confidence	Testing a Claim	Additional Inference Topics	AP Exam Review
Time Frame	3 weeks	3 weeks	4 weeks	3 weeks	4 weeks
Standards/ IB Topics	III. Anticipating Patterns: Exploring random phenomena using probability and simulation	IV. Statistical Inference: Estimating population parameters and testing hypotheses	IV. Statistical Inference: Estimating population parameters and testing hypotheses	IV. Statistical Inference: Estimating population parameters and testing hypotheses	All Course Topics
Content Specific Information	Sampling distribution of a sample proportion Sampling distribution of a sample mean Central Limit Theorem Sampling distribution of a difference between two independent sample proportions Sampling distribution of a difference between two independent sample means Simulation of sampling distributions t-distribution Chi-square distribution	Estimation (point estimators and confidence intervals) Estimating population parameters and margins of error Properties of point estimators, including unbiasedness and variability Logic of confidence intervals, meaning of confidence level and confidence intervals, and properties of confidence intervals Large sample confidence interval for a proportion Large sample confidence interval for a difference between two proportions Confidence interval for a mean	Logic of significance testing, null and alternative hypotheses; p-values; one- and two-sided tests; concepts of Type I and Type II errors; concept of power Large sample test for a proportion Test for a mean	Large sample confidence interval for a difference between two proportions Confidence interval for a difference between two means (unpaired and paired) Confidence interval for the slope of a least-squares regression line Large sample test for a difference between two proportions Test for a difference between two means (unpaired and paired) Chi-square test for goodness of fit, homogeneity of proportions, and independence (one- and two-way tables) Test for the slope of a least-squares regression line	
Common Assessments/ Major Projects	Semester 2 Test #1	Semester 2 Test #2	Semester 2 Test # 3	Semester Test # 4	Inference Project
Resources	The Practice of Statistics 5th edition AP College Board	The Practice of Statistics 5th edition AP College Board	The Practice of Statistics 5th edition AP College Board	The Practice of Statistics 5th edition AP College Board	The Practice of Statistics 5th edition AP College Board
Course Levels	**Marietta City Schools offers Enhanced, Honors, Accelerated, and AP classes to provide differentiated learning experiences for students.**				