AP STATISTICS — 8-MONTH SYLLABUS

2 Classes per Week • 8 Months • Approximately 64 Classes

Course Length	8 Months
Class Frequency	2 classes per week
Approx. Total	64 classes (8 months × 8 weeks)
Course Level	AP Statistics
Focus	Data Analysis • Probability • Statistical Inference • Modeling • AP MCQ & FRQ Preparation

MONTH 1 • Exploring One-Variable Data

- Week 1 — Class 1: Statistics, variables and data types. | Class 2: Categorical vs. quantitative variables and data collection basics.
- Week 2 — Class 1: Frequency tables, dotplots and histograms. | Class 2: Describing distributions: shape, center and spread.
- Week 3 — Class 1: Mean, median and measures of variability. | Class 2: Percentiles, z-scores and standardization.
- Week 4 — Class 1: Boxplots, five-number summary and outliers. | Class 2: Comparing distributions and Unit 1 assessment.

MONTH 2 • Modeling Two-Variable Data

- Week 5 — Class 1: Scatterplots and correlation. | Class 2: Interpreting direction, form, strength and unusual features.
- Week 6 — Class 1: Least-squares regression. | Class 2: Slope, intercept and residual interpretation.
- Week 7 — Class 1: Residual plots and regression conditions. | Class 2: Coefficient of determination and prediction.
- Week 8 — Class 1: Transformations and nonlinear relationships. | Class 2: AP-style data analysis, FRQ practice and assessment.

MONTH 3 • Collecting Data & Experimental Design

- Week 9 — Class 1: Populations, samples and sampling methods. | Class 2: Bias, undercoverage and nonresponse.
- Week 10 — Class 1: Observational studies vs. experiments. | Class 2: Random assignment, control groups and replication.
- Week 11 — Class 1: Matched pairs and block designs. | Class 2: Scope of inference and sources of variability.
- Week 12 — Class 1: Designing and evaluating statistical studies. | Class 2: AP-style experimental design FRQs and assessment.

MONTH 4 • Probability & Random Variables

- Week 13 — Class 1: Probability rules and sample spaces. | Class 2: Addition and multiplication rules.
- Week 14 — Class 1: Conditional probability and independence. | Class 2: Two-way tables and probability trees.
- Week 15 — Class 1: Discrete random variables and probability distributions. | Class 2: Expected value and variance.
- Week 16 — Class 1: Binomial and geometric random variables. | Class 2: Calculator probability functions, review and assessment.

MONTH 5 • Sampling Distributions & Statistical Reasoning

- Week 17 — Class 1: Sampling distributions and sampling variability. | Class 2: Distribution of sample proportions.

• Week 18 — Class 1: Sampling distribution of sample means. | Class 2: Central Limit Theorem and normal approximations.

• Week 19 — Class 1: Standard error and interpreting sampling distributions. | Class 2: Choosing appropriate normal/binomial models.

• Week 20 — Class 1: Simulation and sampling distribution applications. | Class 2: AP-style MCQs/FRQs and assessment.

MONTH 6 • Inference for Proportions & Means

• Week 21 — Class 1: Confidence intervals for one proportion. | Class 2: Conditions, interpretation and margin of error.

• Week 22 — Class 1: Confidence intervals for one mean. | Class 2: t-distributions and calculator procedures.

• Week 23 — Class 1: Hypothesis tests for one proportion. | Class 2: Type I/II errors, p-values and significance levels.

• Week 24 — Class 1: Hypothesis tests for one mean. | Class 2: Inference review, FRQ practice and assessment.

MONTH 7 • Comparing Groups & Chi-Square Inference

• Week 25 — Class 1: Comparing two proportions. | Class 2: Two-proportion confidence intervals and tests.

• Week 26 — Class 1: Comparing two means. | Class 2: Two-sample t procedures and conditions.

• Week 27 — Class 1: Matched-pairs inference. | Class 2: Chi-square goodness-of-fit, homogeneity and independence.

• Week 28 — Class 1: Inference procedure selection. | Class 2: Mixed AP practice, calculator skills and unit assessment.

MONTH 8 • AP Statistics Comprehensive Review & Exam Preparation

• Week 29 — Class 1: Regression and data analysis review. | Class 2: Sampling, experimental design and probability review.

• Week 30 — Class 1: Random variables and sampling distributions review. | Class 2: Confidence intervals and hypothesis tests review.

• Week 31 — Class 1: Mixed AP-style MCQ practice. | Class 2: Timed FRQ practice, communication and scoring strategies.

• Week 32 — Class 1: Full-length AP Statistics practice exam and error analysis. | Class 2: Final targeted review, calculator strategy and exam preparation.

Assessment & AP Exam Preparation

Component	Recommended Approach
Every Class	5–10 min retrieval practice • concept instruction • calculator/data analysis • worked examples • AP-style questions
Weekly	Practice set, data interpretation or short statistical reasoning check
Monthly	Unit assessment with MCQs, statistical calculations and FRQ-style responses
Mid-Course	Cumulative assessment after Month 4 with timed practice
Final Month	Full-length practice exam, FRQ scoring, error analysis and targeted revision

Learning Outcomes

• Describe, visualize and compare one-variable data using appropriate statistical measures and graphs.

• Interpret scatterplots, correlation, regression equations, residuals and predictions.

• Design and evaluate samples, surveys and randomized experiments.

• Apply probability rules, conditional probability, independence and random-variable models.

• Use binomial, geometric and normal probability models appropriately.

• Understand sampling distributions and use simulation to explain statistical variability.

• Construct and interpret confidence intervals for proportions and means.

• Perform and interpret hypothesis tests using p-values, significance levels and conditions.

• Compare groups using two-proportion, two-mean and matched-pairs procedures.

• Use chi-square procedures and select appropriate inference methods.

• Communicate statistical reasoning clearly in AP-style free-response questions and interpret calculator output.

Pacing Note

This plan is designed for two classes per week over eight months. Calculator practice, simulation, real-world datasets and AP-style free-response work can be integrated throughout the course, with increased timed practice before the AP exam.