CollegeBoard AP®

AP® Statistics

Your Course at a Glance

Plan

The Course at a Glance provides a useful visual organization of the AP Statistics curricular components, including:

- Sequence of units, along with approximate weighting and suggested pacing. Please note, pacing is based on 45-minute class periods, meeting five days each week for a full academic year.
- Progression of topics within each unit
- Spiraling of the big ideas and course skills across units

Teach

SKILL CATEGORIES

Skill categories spiral throughout the course.

1	Selecting Statistical Methods
2	Data Analysis
3	Using Probability and Simulation
4	Statistical Argumentation
+	Indicates 3 or more skills for a given topic. See the individual topic for all the relevant skills.

BIG IDEAS

Big ideas spiral across topics and units.

VAR	Variation and Distribution
UNC	Patterns and Uncertainty
DAT	Data-Based Predictions, Decisions, and Conclusions

Assess

Assign the Personal Progress Checks—either as homework or in class—for each unit. Each Personal Progress Check contains formative multiple-choice and free-response questions. The feedback from the Personal Progress Checks shows students the areas where they need to focus.

UNIT 1

Exploring One-Variable Data

~14–16 Class Periods | **15–23%** AP Exam Weighting

VAR	1	1.1 Introducing Statistics: What Can We Learn from Data?
VAR	2	1.2 The Language of Variation: Variables
UNC	2	1.3 Representing a Categorical Variable with Tables
UNC	2	1.4 Representing a Categorical Variable with Graphs
UNC	2	1.5 Representing a Quantitative Variable with Graphs
UNC	2	1.6 Describing the Distribution of a Quantitative Variable
UNC	2 4	1.7 Summary Statistics for a Quantitative Variable
UNC	2	1.8 Graphical Representations of Summary Statistics
UNC	2	1.9 Comparing Distributions of a Quantitative Variable
VAR	2 3	1.10 The Normal Distribution

Personal Progress Check 1

Multiple-choice: ~35 questions
Free-response: 2 questions
- Exploring Data
- Exploring Data

UNIT 2

Exploring Two-Variable Data

~10–11 Class Periods | **5–7%** AP Exam Weighting

VAR	1	2.1 Introducing Statistics: Are Variables Related?
UNC	2	2.2 Representing Two Categorical Variables
UNC	2	2.3 Statistics for Two Categorical Variables
UNC DAT	2	2.4 Representing the Relationship Between Two Quantitative Variables
DAT	2 4	2.5 Correlation
DAT	2	2.6 Linear Regression Models
DAT	2	2.7 Residuals
DAT	2 4	2.8 Least Squares Regression
DAT	2	2.9 Analyzing Departures from Linearity

Personal Progress Check 2

Multiple-choice: ~35 questions
Free-response: 2 questions
- Exploring Data
- Investigative Task

UNIT 3

Collecting Data

~9–10 Class Periods | **12–15%** AP Exam Weighting

VAR	1	3.1 Introducing Statistics: Do the Data We Collected Tell the Truth?
DAT	1 4	3.2 Introduction to Planning a Study
DAT	1	3.3 Random Sampling and Data Collection
DAT	1	3.4 Potential Problems with Sampling
VAR	1	3.5 Introduction to Experimental Design
VAR	1	3.6 Selecting an Experimental Design
VAR	4	3.7 Inference and Experiments

Personal Progress Check 3

Multiple-choice: ~20 questions
Free-response: 2 questions
- Exploring Data and Collecting Data
- Collecting Data

UNIT 4

Probability, Random Variables, and Probability Distributions

~18–20 Class Periods | **10–20%** AP Exam Weighting

VAR	1	4.1 Introducing Statistics: Random and Non-Random Patterns?
UNC	3	4.2 Estimating Probabilities Using Simulation
VAR	3 4	4.3 Introduction to Probability
VAR	4	4.4 Mutually Exclusive Events
VAR	3	4.5 Conditional Probability
VAR	3	4.6 Independent Events and Unions of Events
VAR	2 4	4.7 Introduction to Random Variables and Probability Distributions
VAR	3 4	4.8 Mean and Standard Deviation of Random Variables
VAR	3	4.9 Combining Random Variables
UNC	3	4.10 Introduction to the Binomial Distribution
UNC	3 4	4.11 Parameters for a Binomial Distribution
UNC	3 4	4.12 The Geometric Distribution

Personal Progress Check 4

Multiple-choice: ~45 questions
Free-response: 2 questions
- Probability
- Investigative Task

UNIT 5

Sampling Distributions

~10–12 Class Periods | **7–12%** AP Exam Weighting

VAR	1	5.1 Introducing Statistics: Why Is My Sample Not Like Yours?
VAR	3	5.2 The Normal Distribution, Revisited
UNC	3	5.3 The Central Limit Theorem
UNC	4 3	5.4 Biased and Unbiased Point Estimates
VAR	3 4	5.5 Sampling Distributions for Sample Proportions
UNC	3 4	5.6 Sampling Distributions for Differences in Sample Proportions
UNC	3 4	5.7 Sampling Distributions for Sample Means
UNC	3 4	5.8 Sampling Distributions for Differences in Sample Means

Personal Progress Check 5

Multiple-choice: ~35 questions
Free-response: 2 questions
- Probability and Sampling Distributions
- Investigative Task

UNIT 6

Inference for Categorical Data: Proportions

~16–18 Class Periods | **12–15%** AP Exam Weighting

VAR	1	6.1 Introducing Statistics: Why Be Normal?
UNC	+	6.2 Constructing a Confidence Interval for a Population Proportion
UNC	4	6.3 Justifying a Claim Based on a Confidence Interval for a Population Proportion
VAR	1 4	6.4 Setting Up a Test for a Population Proportion
VAR DAT	3 4	6.5 Interpreting *p*-Values
DAT	4	6.6 Concluding a Test for a Population Proportion
UNC	+	6.7 Potential Errors When Performing Tests
UNC	+	6.8 Confidence Intervals for the Difference of Two Proportions
UNC	4	6.9 Justifying a Claim Based on a Confidence Interval for a Difference of Population Proportions
VAR	1 4	6.10 Setting Up a Test for the Difference of Two Population Proportions
VAR DAT	3 4	6.11 Carrying Out a Test for the Difference of Two Population Proportions

Personal Progress Check 6

Multiple-choice: ~55 questions
Free-response: 2 questions
- Inference
- Investigative Task

UNIT 7

Inference for Quantitative Data: Means

~14–16 Class Periods | **10–18%** AP Exam Weighting

VAR	1	7.1 Introducing Statistics: Should I Worry About Error?
VAR UNC	+	7.2 Constructing a Confidence Interval for a Population Mean
UNC	4	7.3 Justifying a Claim About a Population Mean Based on a Confidence Interval
VAR	1 4	7.4 Setting Up a Test for a Population Mean
VAR DAT	3 4	7.5 Carrying Out a Test for a Population Mean
UNC	+	7.6 Confidence Intervals for the Difference of Two Means
UNC	4	7.7 Justifying a Claim About the Difference of Two Means Based on a Confidence Interval
VAR	1 4	7.8 Setting Up a Test for the Difference of Two Population Means
VAR DAT	3 4	7.9 Carrying Out a Test for the Difference of Two Population Means
		7.10 Skills Focus: Selecting, Implementing, and Communicating Inference Procedures

Personal Progress Check 7

Multiple-choice: ~50 questions
Free-response: 2 questions
- Inference and Collecting Data
- Investigative Task

UNIT 8

Inference for Categorical Data: Chi-Square

~10–11 Class Periods | **2–5%** AP Exam Weighting

VAR	1	8.1 Introducing Statistics: Are My Results Unexpected?
VAR	+	8.2 Setting Up a Chi-Square Goodness of Fit Test
VAR DAT	3 4	8.3 Carrying Out a Chi-Square Test for Goodness of Fit
VAR	3	8.4 Expected Counts in Two-Way Tables
VAR	1 4	8.5 Setting Up a Chi-Square Test for Homogeneity or Independence
VAR DAT	3 4	8.6 Carrying Out a Chi-Square Test for Homogeneity or Independence
		8.7 Skills Focus: Selecting an Appropriate Inference Procedure for Categorical Data

Personal Progress Check 8

Multiple-choice: ~30 questions
Free-response: 2 questions
- Inference
- Inference and Exploring Data/Collecting Data

UNIT 9

Inference for Quantitative Data: Slopes

~7–8 Class Periods | **2–5%** AP Exam Weighting

VAR	1	9.1 Introducing Statistics: Do Those Points Align?
UNC	+	9.2 Confidence Intervals for the Slope of a Regression Model
UNC	4	9.3 Justifying a Claim About the Slope of a Regression Model Based on a Confidence Interval
VAR	1 4	9.4 Setting Up a Test for the Slope of a Regression Model
VAR DAT	3 4	9.5 Carrying Out a Test for the Slope of a Regression Model
		9.6 Skills Focus: Selecting an Appropriate Inference Procedure

Personal Progress Check 9

Multiple-choice: ~25 questions
Free-response: 1 question
- Inference and Exploring Data

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