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