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
- 3 Using Probability and Simulation
- 2 Data Analysis
- 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
- **DAT** Data-Based Predictions. Decisions, and Conclusions
- **UNC** Patterns and Uncertainty

Assess

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



Exploring One-Variable **Data**

~14-16 Class Periods

15-23% AP Exam Weighting

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

UNIT 2

Exploring Two-Variable Data

~10-11 Class Periods

5-7% AP Exam Weighting

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

Personal Progress Check 1

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

- Exploring Data
- Exploring Data

Personal Progress Check 2

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

- Exploring Data
- Investigative Task



Collecting Data

~9-10 Class Periods

12-15% AP Exam Weighting

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



Probability, Random Variables, and Probability **Distributions**

| 4 | ~18- | 20 | Class Periods | 10-20% | AP Exam Weightin |
|---|------|------|------------------|---------------------------|---------------------|
| | | | | | |
| | VAR | | | ucing Statist | ics: |
| | 1 | | | om and landom Patte | 2 |
| | | | Non-R | andom Patte | rns? |
| | UNC | 4.2 | Estim | ating | |
| | 3 | | | bilities | |
| | | | Using | Simulation | |
| | VAR | 4.3 | Introd | uction | |
| | 3 | | to Pro | bability | |
| | 4 | | | | |
| | VAR | | Mutua | | |
| | 4 | | Exclus | sive Events | |
| | VAR | | Q 1: | 4:1 D b - b | .11.4 |
| | | 4.5 | Conai | tional Probab | onity |
| | 3 | | | | |
| | VAR | 4.6 | Indep | endent Event | S |
| | 3 | | | nions of Ever | |
| | | | | | |
| | VAR | | | uction to | |
| | 2 | | | om Variables robability | |
| | 4 | | | outions | |
| | | | | | |
| | VAR | | | and Standard | ł |
| | 3 | | | tion of | |
| | 4 | | Rando | om Variables | |
| | VAR | 4.9 | Comb | ining | |
| | 3 | | Rando | om Variables | |
| | | | | | |
| | UNC | | | uction to the | |
| | 3 | | Binon | nial Distributi | on |
| | UNC | 4.11 | Param | eters for a | |
| | 3 | | | nial Distributi | on |
| | 4 | | | | |
| | UNC | 4.12 | The G | eometric | |
| | | | D2 -4-21 | Laboration and the second | |

UNIT

Sampling Distributions

~10-12 Class Periods

7-12% AP Exam Weighting

| VAR | 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 |
| 3 4 | 5.6 Sampling Distributions for Differences in Sample Proportions |
| 3 4 | 5.7 Sampling Distributions for Sample Means |
| 3 4 | 5.8 Sampling Distributions for Differences in Sample Means |

Personal Progress Check 3

Multiple-choice: ~20 questions Free-response: 2 questions

- Exploring Data and Collecting Data
- Collecting Data

Personal Progress Check 4

Distribution

Multiple-choice: ~45 questions Free-response: 2 questions

- Probability
- Investigative Task

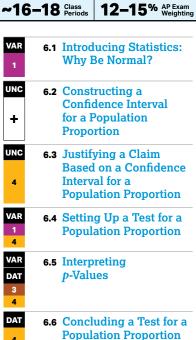
Personal Progress Check 5

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

- Probability and Sampling Distributions
- Investigative Task



Inference for **Categorical Data: Proportions**



- UNC **6.7** Potential Errors When **Performing Tests** + UNC **6.8** Confidence Intervals
- + **Two Proportions** UNC 6.9 Justifying a Claim Based on a **Confidence Interval** 4 for a Difference of

for the Difference of

Population Proportions

- VAR 6.10 Setting Up a Test for the Difference of Two **Population Proportions** 4
- VAR 6.11 Carrying Out a **Test for the Difference** DAT of Two Population **Proportions**



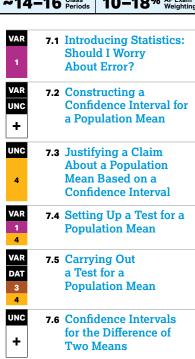
UNC

VAR

Inference for Quantitative **Data: Means**

~14-16 Class Periods

10-18% AP Exam Weighting



Population Means 4 **7.9** Carrying Out a Test for the Difference of Two DAT **Population Means**

7.7 Justifying a Claim

About the Difference of

Two Means Based on a

Confidence Interval

7.8 Setting Up a Test for the Difference of Two

7.10 Skills Focus: Selecting. Implementing, and Communicating **Inference Procedures**

UNIT 8

Inference for **Categorical Data:** Chi-Square

~10-11 Class Periods

2-5% AP Exam Weighting

| VAR | 8.1 | Introducing Statistics: |
|-----|-----|---------------------------------|
| | | Are My Results |
| 1 | | Unexpected? |
| VAR | 8.2 | Setting Up a |
| . | | Chi-Square Goodness |
| + | | of Fit Test |
| VAR | 8.3 | Carrying Out a |
| DAT | | Chi-Square Test for |
| 3 | | Goodness of Fit |
| 4 | | |
| VAR | 8.4 | Expected Counts in |
| 3 | | Two-Way Tables |
| VAR | 8.5 | Setting Up a |
| 1 | | Chi-Square Test |
| | | for Homogeneity |
| 4 | | or Independence |
| VAR | 8.6 | Carrying Out a |
| DAT | | Chi-Square Test |
| DAT | | |
| 3 | | for Homogeneity or Independence |

8.7 Skills Focus: Selecting an Appropriate **Inference Procedure** for Categorical Data

Personal Progress Check 6

Multiple-choice: ~55 questions Free-response: 2 questions

- Inference
- Investigative Task

Personal Progress Check 7

Multiple-choice: ~50 questions Free-response: 2 questions

- Inference and Collecting Data
- Investigative Task

Personal Progress Check 8

Multiple-choice: ~30 questions Free-response: 2 questions

- Inference
- Inference and Exploring Data/ Collecting Data



~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
- 9.4 Setting Up a Test for the Slope of a Regression Model
- VAR DAT 3
- 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