AP STATISTICS
AUDIT SYLLABUS

Course Design

AP Statistics is the high school equivalent of a one semester, introductory college statistics course. In this course, students develop strategies for collecting, organizing, analyzing, and drawing conclusions from data. Students design, administer, and tabulate results from surveys and experiments. Probability and simulations aid students in constructing models for chance phenomena. Sampling distributions provide the logical structure for confidence intervals and hypothesis tests. To develop effective statistical communication skills, students are required to prepare frequent written and oral analyses of real data.

Students in the AP Statistics course often work in groups to gather, analyze, and discuss conclusions drawn from data. Classroom discussion pertaining to statistical topics is encouraged as it is an integral part of developing an understanding of the methodology, practical application, and inferences drawn from the subject.
Teaching materials for this course include a primary textbook, activities, lectures and discussions, readings from other books, journals, magazines, and newspapers, ancillary packets, videos, dynamic software explorations, calculator simulations, and a class website.

Students complete a final culminating project after the AP Examination. The purpose of this project is to give the students the opportunity to demonstrate their understanding of Statistics by formulating a question, designing a study or experiment, collecting and analyzing data, and performing appropriate inferential procedures to answer the original question. Students begin drafting questions, designing the study, and collecting data as each concept is mastered throughout the year.

Course Requirements
AP Statistics introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes, with appropriate emphasis given to each:

Exploring Data: Describing patterns and departures from patterns
Sampling and Experimentation: Planning and conducting a study
Anticipating Patterns: Exploring random phenomena using probability and simulation
Statistical Inference: Estimating population parameters and testing hypotheses

Students who successfully complete the course and exam may receive credit, advanced placement, or both for a one-semester introductory college statistics course.

Primary Textbook and Resource Materials

Primary Textbook used in the course:
Yates, Daniel S., Moore, David S., and Starnes, Daren S. *The Practice of Statistics,* 2nd ed. New York: W.H. Freeman, 2003.

The following texts and resources are used as supplements in the teaching of the course:
- Bohan, James F. *AP Statistics: Preparing for the Advanced Placement Examination*, 2nd ed. New York: AMSCO School Publications, 2006.
- Released exams and free response questions from previous exams.
- Daily newspaper/magazine articles are used to illustrate concepts currently being discussed in class.
- Instructor developed activities to illustrate and develop an understanding of statistical concepts.

Technology
AP Statistics teaches students how to use graphing calculators and demonstrates the use of computers and/or computer output to enhance the development of statistical understanding through exploring and analyzing data, assessing models, and performing simulations. Students use a TI-83/84 graphing calculator, Fathom statistical software, and Web-based java applets to investigate statistical concepts. Students are expected to have a graphing calculator with statistical capabilities. A limited number of calculators are available for use if the student can not provide one. Fathom2 Statistical Exploration Software is used to illustrate concepts and assist students in exploring different concepts. Minitab statistical output is used to enhance understanding of statistical results in a variety of forms.

Hardware:
- Texas Instruments TI83+/84+ Graphing Calculators.
- Wireless Lab Station: 30 wireless IBook laptops with a printing station are available daily in the classroom.
- SmartBoard, Smart Technologies Inc. Interactive whiteboard.
Software:
- Key Curriculum Press. *Fathom 2 Dynamic Data Software.*
- Brownstone. *Diploma Exam Software.*
- TI-SmartView™ 2.0 Emulator Software.

Explanation of Tasks

Fathom Labs (FL): Students work individually or in groups using the laptops provided and Fathom software, to investigate different concepts or to complete work required for the "Special Problems" and Final Project.

Special Problems (SP): Students carry out an investigation on the computer and then write a report that describes the investigation and what was learned. These problems accomplish two important objectives: they give students experience using a statistics software package (Fathom) and practice writing statistics narratives.

Critical Statistical Analysis (CSA): These assignments provide the students an opportunity to find an article (sometimes the article is provided) that is based on a statistical procedure or different data set. Students use the tools that they have learned in class to analyze the information in the article, and then write a critical report on their findings.

<u>Online Quiz:</u> Using Diploma Exam software, quizzes are created and then are posted online on the "Testing Center" web site where students log on to take them before every exam.

Course Content and Outline
The following outline describes this course's content by unit as well as assignments, assessments, activities, and mini-projects. Each row corresponds to one 45 minute class period. Fathom Labs and the tasks described are spread out during each chapter. The schedule is subject to change based on student needs, class interruptions, teacher absences, etc.

UNIT #1 - ORGANIZING DATA
Part #1: 1 Variable Data (17 Days)

Chapter 1: Exploring Data

1.1
Exploratory Data Analysis - Definition of statistics, variables (categorical vs quantitative), data, displays and numeric descriptions. Rd 8-10 Do 1-6
1.1
Basic Graphical Displays - Dotplots, stemplots, histograms vs bar graphs and pie charts. Rd 11-16 Do 8,9,10
1.1
Plots Practice - Construct plots and interpret the Shape, Outliers, Center, and Spread of univariate datasets. Rd 18-27 Do 15,16,20
Quiz 1.1 Rd 27-34 Do 23,24,28
1.2
Measures of Center - Calculate and interpret the mean and median of a dataset. Rd 37-46 Do 31,34,36,39
1.2
Standard Deviation - Calculate and interpret the standard deviation of a dataset. Rd 49-52 Do 40,41,43
1.2
Center and Spread - Calculate and interpret the 5-number summary of a dataset. Display data using a boxplot. Rd 53-55 Do 44,45,46
1.2
Comparing - Side by side stemplots, parallel boxplots. Rd 56-61 Do 48,49
Online Quiz Chapter 1
Review for Chapter 1 Exam Rd 64-66 Do 60,63,66,67
Chapter 1 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to construct and interpret appropriate displays and numerical descriptions of data sets similar to AP free response questions.
Tasks: <u>CSA #1 </u>Students will locate a set of quantitative data in a newspaper, magazine, periodical, recent book, or on the Internet and then use appropriate graphical and numerical descriptive techniques to present the data. They will then, write a narrative analysis of the data in context based on your graphical and numerical summaries. SP 1A, 1B -- Fathom Lab #1, 2, 3

Chapter 2: The Normal Distributions

2.1
Normal Dist Activity - Students measure heights and display data using a dotplot. Characteristics of the plot are used to introduce the concepts of density curves and normal distributions.
2.1
Density Curves - Describe an idealized mathematical model for distributions of data. Rd 78-83 Do 1-4
2.1
Normal Distributions - Explore the characteristics of a normal distribution and the Empirical (68-95-99.7) Rule Rd 85-90 Do 6-9,11-15
Quiz 2.1
2.2
Standardizing, Normal Curves - Calculate the standard normal score and percentile for observations in a normal distribution. Rd 93-101 Do 19-24
2.2
z-score Calculations - Calculate the % of observations above, below, and between multiple values on a normal distribution. Rd 101-109 Do 26, 28-34
2.2
Assessing Normality - Construct and interpret normal quartile plots as a tool to assess the normality of a set of data. Rd 112 Do 40-42, 44-48
Review Chapter 2 / Online Quiz Chapter 2
Chapter 2 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to assess normality and perform standard normal calculations.
Tasks: CSA #2: Students collect a set of approximately normal quantitative data (minimum n=30) and analyze it using the techniques from this chapter. Normality of the data is to be assessed, the Empirical Rule is to be interpreted, and at least 3 standard normal calculations are to be performed in the context of the data.   SP 2A -- Fathom Lab #4

UNIT #1 - ORGANIZING DATA
Part #2: 2 Variable Data – (25 Days)

Chapter 3: Examining Relationships

3.1
Scatterplots - Construct and interpret a scatterplot for bivariate data. Analyze strength, direction, and form and identify control and dependent variables. Rd 121-134 Do 1-4,6-7,15-19, 22
3.2
Correlation - Calculate and interpret the correlation coefficient, r. Discuss properties of r. Cautions about correlation. Rd 140-145 Do 24-29, 33
Quiz 3.1 – 3.2
3.3
Least Squares - Calculate and interpret the slope and intercept of the "line of best fit" for bivariate data. Discuss prediction vs extrapolation. Rd 149-156 Do 38-41
3.3
Least Squares Regression - Use LSRL to make predictions from a bivariate set of data. Calculate and interpret residuals. Rd 157-165 Do 42-43, 45
3.3
Residuals - Construct residual plots as a means to discuss the appropriateness of a linear regression model. Define and interpret r^2 in the context of a LSRL situation. Discuss effects of outliers and influential points on LSRLs. Rd 167-176, Do 46, 48
Online Quiz Chapter 3 - Rd 181-183 Do 62-65, 67-73
Chapter 3 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to construct and interpret appropriate displays and numerical descriptions of univariate data sets.
Tasks:
CSA #3: Students collect a set of bivariate quantitative data (minimum n=30) and analyze it using the techniques from this chapter. Data is to be plotted in a scatterplot and analyzed in terms of strength, direction, and form. The LSRL and correlation are to be calculated and interpreted in the context of the data. At least 3 calculations are to be performed using the LSRL, illustrating reasonable predictions as well as the dangers of extrapolation. SP 3A -- Fathom Lab #5

Chapter 4: More on Two Variable Data

4.1
Transforming Relationships - Use logarithmic transformations to achieve linearity. Rd 192-205 Do 3-5
4.1
Power and Exponential Models - Calculate LSRL for log-transformed data and use it to find exponential and power models. Rd 214-219 Do 13-16
4.1
Modeling Nonlinear Data - Calculate and interpret the most appropriate model for nonlinear data. Nonlinear Modeling
Review 4.1 - Using technology to find nonlinear models. Rd 221-222 Do 17, 21, 25
Quiz 4.1
4.2
Cautions about Correlation - Correlation vs Causation Rd 225-230 Do 27-31
4.2
The Question of Causation - Discuss lurking variables, common response, causation, and confounding. Rd 231-237 Do 33-37
4.2
Causation Practice Rd 238 Do 38-49
4.3
Categorical Relationships - Discuss marginal and conditional distributions for categorical data presented in two-way tables. Rd 241-245 Do 53-55
4.3
Simpson's - Recognize and identify Simpson's Paradox Rd 246-250 Do 59-61
Review - Online Quiz Chapter 4 - Do 72-73, 81-83
<u>Chapter 4 Exam:</u> Multiple Choice and Free Response Exam. Students demonstrate ability to construct and interpret appropriate models for nonlinear data as well as identify possible reasons for correlation. Students interpret relationships in categorical data by analyzing two-way tables.
CSA #4: Students collect a set of nonlinear bivariate quantitative data (minimum n=30) and analyze it using the techniques from this chapter. Data is to be plotted in a scatterplot and analyzed in terms of strength, direction, and form. The most appropriate nonlinear model is to be calculated, justified, and interpreted in the context of the data. At least 3 calculations are to be performed using the model, illustrating reasonable predictions as well as the dangers of extrapolation.

UNIT #2 - PRODUCING DATA
Chapter 5: Samples, Experiments, and Simulations- (11 Days)

5.1
Sampling Methods - Population vs. Sample. Observational Study vs Experiment. Discuss good vs bad methods of collecting a representative sample; Voluntary Response, Convenience, Cluster, Systematic, Simple Random Sample, Stratified Random Sample. Rd 269-283 Do 1-12
5.1
Sampling and Bias - Designing polls and surveys with an awareness of under-coverage, non-response, wording bias, and other potential bias. Rd 284-285 Do 19-29
5.2
Experimental Design - Basics including subjects, factors, treatments, variables, control, randomization, replication, placebo effect, and blinding. Rd 290-297 Do 31-39
5.2
Matched Pairs and Blocking - Advanced designs Rd 299-303 Do 43-48 Rd 305-306 Do 49-53, 56, 58
Quiz 5.1-5.2
5.3
Simulating Experiments - Use Calculator and random numbers to simulate experimental results. Rd 309-319 Do 59-63, 74-80
Online Quiz Chapter 5 / Do 82-83, 86
Chapter 5 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to identify appropriate sampling and experimental procedures as well as potential bias and confounding. Students design an experiment to answer a situational question.
CSA #5: Students develop a question that can be answered by collecting data through an observational study or experiment. Students must then develop a study to collect this data. Grading will be based on the appropriateness of the study

UNIT #3 - PROBABILITY: FOUNDATIONS OF INFERENCE (20 Days)
Part A: Probability
Chapter 6: The Study of Randomness

6.1
Flipping Coins - Explore Randomness and discuss probability as a long term relative frequency. Define sample space, outcomes, and events. Rd 330-340 Do 11-15, 17-18
6.2
Probability Rules - Basic probability rules, Venn and tree diagrams, union and intersection, multiplication counting principle. Rd 342-354 Do 19-23, 26-29, 31
Quiz 6.1 – 6.2
6.3
General Probability Rules - Addition and multiplication rules for independent events. Rd 359-369 Do-53 46
6.3
Conditional Probabilities - Two-way tables, independence. Rd 366-369 Do 54-61
6.3
Bayes' Rule - Tree Diagrams and conditional probabilities. Rd 371-376 Do 62-65
Online Quiz Rd 383-383 Do 66-71, 73-74
Chapter 6 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to calculate and interpret probabilities using the addition and multiplication rules as well as other strategies including diagrams and simulations.

Chapter 7: Random Variables

7.1
Discrete Random Variables - Introduction to Random Variables, discrete vs continuous, probability distributions, notation. Rd 391-395 Do 1-5
7.1
Continuous Random Variables - Probability distributions for continuous random variables, review of standard normal calculations. Rd 397-403 Do 6-12, 14-16
7.2
Mean/Variance of R.V. - Calculation and interpretation of expected value and variance for discrete random variables. Rd 407-411 Do 22-26, 29
7.2
Rules for Mean/Variance - Exploration of the effects of linear transformations and combinations of random variables. Rd 418-423 Do 34-39, 41
7.2
Combining Normal Random Variables - Calculations and interpretation of expected value and variability of combinations of normal random variables. Rd 424-427 Do 42-46, 49-50
Review - Practice Problems / Online Quiz Chapter 7
Chapter 7 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to identify discrete and random variables. Students calculate and interpret expected value and variability of random variables in context and use them to answer situational questions.
Mini-Project: Students work through an in-class casino lab, calculating and interpreting answers to probability questions in given situations.
CSA #6: Students identify an article related to the concepts learned in AP Statistics and prepare a one-page response. The response should clearly identify connections to class and student reactions to the information.

UNIT #3 - PROBABILITY Part B: FOUNDATIONS OF INFERENCE (18 Days)

Chapter 8: The Binomial and Geometric Distributions

8.1
Binomial Distributions - Identify characteristics of the Binomial Setting{Two outcomes, Independence, Fixed number of trials, Equal P(success P) Rd 439-449 Do 1-5, 9-13
8.1
Binomial Distributions - Calculate and interpret Probabilities in the Binomial Setting, Normal Approximation to the binomial setting Rd 450-459 Do 27-36
Using technology to calculate binomial probabilities Rd 464-473 Do 37-40
Quiz 8.1
8.2
Geometric Distributions - Identify characteristics of the Geometric Setting, calculate and interpret geometric probabilities. Review Worksheet
Review Chapter 8 / Online Quiz Chapter 8
Chapter 8 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to identify binomial and geometric settings. Students calculate and interpret probabilities, expected values, and variability in both binomial and geometric situations. Students demonstrate ability to approximate binomial probabilities using normal calculations.

Chapter 9: Sampling Distributions

9.1
Sampling Distributions - Explore the concepts of parameters vs statistics, sampling distributions, bias and variability, and the concept of inference. Rd 9.1 Do 1-4, 12-15
9.2
Sample Proportions - Calculate and interpret the mean and standard deviation of the sampling distribution of p-hat. Normal approximation and conditions for use. Rd 9.2 Do 19-23
Quiz 9.1 – 9.2
9.3
Sample Means - Calculate and interpret the mean and standard deviation of the sampling distribution of x-bar. Discuss the Central Limit Theorem and conditions for use. Rd 9.3 Do 45-52
9.3
Calculations involving Sampling Distributions - Moving towards statistical inference. Practice Worksheet
Online Quiz Chapter 9
Chapter 9 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to describe the sampling distributions of means and proportions. Students calculate and interpret probabilities using sampling distributions and make basic inferential arguments.

UNIT #4 - Inference: Conclusions with Confidence (50 Days)
Chapter 10: Introduction to Inference

10.1
Estimating with Confidence - Activity to explore the concept of estimating an unknown parameter Rd 535-541 Do 1-4
10.1
Confidence Intervals - Logic behind the construction and interpretation of a confidence interval. Point estimate, margin of error, determining sample size. Rd 543-554 Do 8-10, 20-21, 24-25
10.2
Tests of Significance - Activity to explore the concept of testing a claim about a parameter. Rd 559-566 Do 27-32
10.2
Hypotheses - Develop a basic procedure for inference; Hypotheses, conditions, sampling distribution, p-value, conclusion. Rd 567-581 Do 38-40,46-48
10.3
Using Significance Tests - Significance level, one-sided vs two-sided, statistical vs practical significance. Practice Sheet
Quiz 10.1-10.2 Rd 586-592 Do 57-61
10.4
Inference as a Decision - Introduction to Type I and II errors Rd 593-598 Do 66-68
10.4
Type I,II Errors - Calculating and interpreting power Rd 599-602 Do 71-72
Review Online Quiz Chapter 10 Rd 606-608 Review Sheet
Chapter 10 Exam: (This is a 2 day Exam) Multiple Choice and Free Response Exam. Students demonstrate ability to construct and interpret confidence intervals and carry out basic significance tests.

Chapter 11: Inference for Distributions

11.1
Inference for the Mean - Introduction to Student's t-Distribution, degrees of freedom Rd 616-619 Do 1-5
11.1
t intervals and tests - Construct and interpret a one-sample t-interval for a mean. Interpret confidence level. Determine sample size. Perform significance tests for a claim about a population mean. Rd 621-628 Do 7-11
11.1
Matched Pairs t - Construct and interpret a paired t interval. Perform interval calculations on the calculator. Rd 628-640 Do 12-17
11.1
Robustness - Practice constructing and interpreting t intervals and significance tests for a single mean. Rd 641-642 Do 24-29, 30
Quiz 11.1 Rd 648-656 Do 37-38
11.2
Comparing Two Means - Construct and interpret t-intervals and perform significance tests for claims about two means. Rd 658-667 Do 39-43,47, 49
Quiz 11.2 Rd 667-668 Do 50, 53, 55
Review - Online Quiz Chapter 11/ Rd 673-674 Do 62-65, 72
Chapter 11 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to construct and interpret confidence intervals and carry out basic significance tests for one or two population means.

Chapter 12: Inference for Proportions

12.1
Inference for Proportions - Review sampling distribution for p-hat and introduce concepts of confidence intervals and significance tests. Rd 682-688, Do 1-5
12.1
z-intervals and tests - Calculate and interpret confidence intervals for a population proportion and perform significance tests on a claim about a proportion. Rd 689-697, Do 7-9, 11, 15
12.1 Practice - Construct intervals for proportions on the calculator. Worksheet
Quiz 12.1
12.2
Comparing Proportions - Calculate and interpret confidence intervals for the difference between two proportions. Rd 700-706, Do 22-24
12.2
Significance tests - Perform significance tests to compare two population proportions. Perform proportion tests on the calculator. Rd 707-717, Do 26,28,30,31
Review - Online Quiz 12 Rd 717-719 Do 35, 36, 39, 41, 45
Chapter 12 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to construct and interpret confidence intervals and carry out basic significance tests for one or two population proportions.

Chapter 13: Inference for Tables: Chi – Square Procedures

13.1
Goodness of Fit - Introduction to the Chi-Square distribution, m&m activity to explore comparing distributions of proportions Rd 727-743 Do 1-4, 10-13
13.2
Test for Homogeneity - Compare independent SRS's or multiple distributions Rd 744-756 Do 14, 16-18
13.2
Test for Independence - Distinguish between homogeneity and independence questions. Perform Chi-Square tests on the calculator. Rd 757-766 Do 19, 25-29
Review - Online Quiz 13 Do 31-35, 39
Chapter 13 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to perform Chi-square tests for distributions.

Section 14.1: Inference for Regression – Inference about the Model

14.1
The Linear Regression Model - Population vs Sample regression lines, Confidence Interval for the Slope Rd 14.1 Do Practice Problems
14.1
Significance Test about the Slope - Interpreting Computer or Calculator Output Practice Problems
Review - Online Quiz 14
Chapter 14 Exam: Multiple Choice and Free Response Exam. Students demonstrate ability to construct a confidence interval and perform a t-test about the slope of a regression model.

AP Examination Review (15 Days)
• Chapter Review, Practice Problems
• Mock AP Exam - Multiple Choice and Free Response Final Exam
• Practice Multiple Choice Questions
• Practice Free Response Questions
• Grading and Strategies for Success

AP Statistics Examination

After the AP Examination
Students complete a final project, individually, on a topic of their choice. The purpose of the project is for students to demonstrate an understanding of the major conceptual themes of statistics.

AP STATISTICS
FINAL PROJECT

Develop a question, research the question and use statistical analysis to determine an answer.

Proposal: Deciding what and how to measure.

Data must be collected according to a well-developed plan if valid information on a conjecture is to be obtained. This plan includes clarifying the question and deciding upon a method of data collection and analysis.

A. Overview of methods of data collection

1. Sample survey
2. Experiment

A. Planning and conducting surveys

1. Characteristics of a well-designed and well-conducted survey.
2. Populations, samples, and random selection
3. Sources of bias in surveys
4. Simple random sampling
5. Stratified random sampling

A. Planning and Conducting experiments

1. Characteristics of a well-designed and well-conducted experiment
2. Treatments, control groups, experimental units, random assignments, and replication
3. Sources of bias and confounding, including placebo effect and blinding
4. Completely randomized design
5. Randomized block design, including matched pairs design

Your written report must include:

I.   Introductory Section
      A. Title Page
      B. Table of Contents
      C. List of Figures
      D. List of Tables

II.   Main Body
      A. Problem to be investigated (1 – 3 pages)
            1. Purpose of the study (including assumptions)
            2. Justification of the study
            3. Research question and hypotheses
            4. Definition of terms
      B. Background and review of related literature (3 – 5 pages)
            1. Theory, if appropriate
            2. Studies directly related
            3. Studies tangentially related
      C. Procedures and Methodology (6 – 10 pages)
            1. Description of the research design
            2. Description of the sample
            3. Description of the instruments used including scoring procedures
            4. Explanation of the procedures followed (the what, when, where and how of the study)
            5. Discussion of internal validity
            6. Description and justification of the statistical techniques or other methods of analysis used
      D. Findings (1 – 2 pages)
            1. Description of findings permanent to each of the research hypotheses or questions
      E. Summary and conclusions (3 – 5 pages)
            1. Brief summary of the research question being investigated, the procedures employed, and the results obtained
            2. Discussion of the implications of the findings, their meaning and significance
            3. Suggestions for further research
III. References (Bibliography)
IV.   Appendixes
Students are graded based on the following tasks:

      1. Topic/Study Design Proposal - Detailed research question, rationale, proposed study design, and method of data analysis.
      2. Participation - Use of class time, daily effort on completing project
      3. Written Report - Final report including written descriptions of the research question, rationale, study design, raw data summary, exploratory data analysis, inferential procedure, interpretation, conclusion, obstacles encountered and suggestions for further analysis.
      4. Oral Presentation – 10 to15 minute class presentation of the project utilizing PowerPoint (mandatory) and other visual aids.

Course Objectives

Upon completion of the coursework, exam, and final project, it is expected that students will be proficient in the following areas:

Statistical Concepts

Describe the four major conceptual themes of statistics: Describing Data, Producing Data, Anticipating Patterns, and Statistical Inference.

Statistical Skills

Produce convincing oral and written statistical arguments, using appropriate terminology, in a variety of applied settings.

Know when and how to use technology to aid them in solving statistical problems

Statistical Knowledge

Employ techniques for producing data (surveys, experiments, observational studies, simulations), analyzing data (graphical & numerical summaries), modeling data (probability, random variables, sampling distributions), and drawing conclusions from data (inference procedures – confidence intervals and significance tests)

Statistical Habits of mind

Become critical consumers of published statistical results by heightening awareness of ways in which statistics can be improperly used to mislead, confuse, or distort the truth.