2018 Advanced Placement® Statistics

About the AP® Statistics Summer Institute
This session is designed for both new and experienced teachers and will cover the material pertinent to the 2017-2018 AP® Statistics Course.

Day 1: July 9, 2018
Session 1
- Introductions
- AP Statistics Overview
- College Board Materials and Other Resources
- Pacing/Syllabi
- AP Audit
- Equity and Access as a guiding principle in designing instruction

Session 2
- Exploring Data (univariate data)
- Descriptive Statistics in Words, Numbers, and Charts/Graphs
- Class Activities on Exploring Data

Session 3
- Exploring Relationships (bivariate data)
- Scatterplots, Association, Correlation, and Regression
- Class Activities on Exploring Relationships

Session 4
- Exploring Data and Relationships (continued)
- More Class Activities on Exploring Data and Relationships
- In-Class Exercises on Exploring Data and Relationships

Day 2: July 10, 2018
Session 1
- Homework overview
- Probability (Randomness and Probability Rules)
- Simulation
- Probability (Conditional Probability and Independence)
- Class Activities on Probability and Simulation

Session 2
- Random Variables (Discrete, Continuous)
- Random Variables (Binomial and Geometric)
- Class Activities on Random Variables
- In-Class Exercises on Probability and Random Variables

Session 3
- Sampling Distributions (Sample Proportion)
- Class Activities on Sampling Distributions
- Class Exercises on Sampling Distributions

Session 4
- Sampling Distributions (Sample Mean)
- Class Activities on Sampling Distributions
- In-Class Exercises on Sampling Distributions

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**Day 3: July 11, 2018**

**Session 1**
- Homework overview
- Confidence Intervals (1-Proportion)
- Class Activities on Confidence Intervals

**Session 2**
- Confidence Intervals (1-Mean)
- Class Activities on Confidence Intervals
- In-Class Exercises on Confidence Intervals

**Session 3**
- Hypothesis Tests (1-Proportion, 1-Mean)
- 1-Proportion and 1-Mean Hypothesis Test Class Activities
- In-Class Exercises on 1-Sample Hypothesis Testing

**Session 4**
- 2-Sample Hypothesis Tests and 2-Sample Confidence Intervals
- 2-Sample Hypothesis Tests and 2-Sample Confidence Intervals Class Activities
- In-Class Exercises on 1-Sample and 2-Sample Procedures

**Day 4: July 12, 2018**

**Session 1**
- Homework overview
- Designing Studies
- Sampling, Surveys, Observational Studies, and Experiments
- Data Production Class Activities
- In-Class Exercises on Data Production

**Session 2**
- Chi-Square Goodness of Fit Test
- Chi-Square Test for Association/Independence
- Chi-Square Class Activities

**Session 3**
- Formulas and Tables
- Use of Technology
- Common Student Errors
- 2018 AP Statistics Exam

**Session 4**
- Free Response Questions – Practice Grading
- Resources and Strategies for a Successful AP Program
- Becoming an AP Reader

**What to bring:**
Items you should bring during the week include:
- a laptop computer & storage device
- a TI-84 Plus graphing calculator
- a current syllabus and pacing guide
- one classroom activity to share
- one best practice to share
- comfortable clothes and shoes for walking in the summer heat
- a light sweatshirt or sweater in case you get chilly in the AC
- note: a survey will be sent to you a few weeks before the course begins – please be sure to provide your own email address so that you can respond prior to the beginning of the workshop
Instructor:

David Wilcox joined the math faculty at The Lawrenceville School in Lawrenceville, NJ for the 2017-2018 school year after teaching AP Statistics for 18 years at Christ Church Episcopal School in Greenville, South Carolina. He has served as a rubric team member, table leader, and reader for the College Board at the AP Statistics Reading for the past 16 years. Additionally, he has developed and taught courses to help students prepare for the SAT and ACT. David also has experience as an AP workshop leader and APSI instructor. In addition to AP Statistics, David teaches Honors Calculus-Based Probability and Statistics at The Lawrenceville School. In 2006, he was a national nominee for the prestigious Siemens Award for Advanced Placement for his work in the AP Statistics classroom. David received a Bachelor of Science in Mathematics from Christian Brothers University in 1989, a Masters of International Business Studies (Spanish Track) from the University of South Carolina in 1994, and a Master of Applied Statistics degree from the University of South Carolina in 2013.