SUMMER 2023 WORKSHOPS

Aug 7 - 10  AP Statistics Summer Institute
            online
            for AP Stat teachers who are new or want new teaching strategies or methods

Aug 14 - 17 AP Statistics Summer Institute
            in-person
            for AP Stat teachers who are new or want new teaching strategies or methods

Interested in learning more about statistics and/or data science?
Are you a high school or college teacher interested in statistics education?
Are you a professional wanting to learn about data science and programming?
Have you been thrown into teaching statistics, but do not know where to begin?
Join regional and national statistics education experts for our summer workshops!
These workshops are designed for teachers of AP Statistics, new and experienced. The theme is collaboration. After taking this course, you will…

- Understand the scope of the AP Statistics course
- Learn tips for managing the AP Statistics curriculum
- Become familiar with the AP Statistics exam
- Become familiar with the AP reading process
- Learn to use the TI-84 and appropriate other technologies

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<thead>
<tr>
<th>In Person (August 14-17)</th>
<th>Online (August 7-10)</th>
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<tbody>
<tr>
<td>This workshop takes place over four days. We will meet from 9 – 4pm each day, with a lunch break from noon to 1pm (lunches included in price). Based on feedback from past workshops, we have added an optional practice session from 4-5pm where participants can continue working to complete exercises and extend their knowledge and expertise beyond the material covered during that day’s sessions.</td>
<td>The sessions will be held online via Zoom. The morning sessions will be from 8:30 – 11:30am each day. You are expected to be online at that time. The afternoon sessions will be from 1 - 4pm and be asynchronous (you are not required to attend). The Zoom room will be available during the afternoon session for those that wish to use it. We also offer optional evening office hours.</td>
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There are four foundational themes for AP Statistics: design of experiments, exploratory data analysis, probability, and inference. We will explore these strands of content in relationship to the technologies and pedagogical strategies we can employ to have our students succeed on the AP Statistics examination. The role of the College Board and ETS in the administration of the AP program will be presented, and there will be an overview of the AP syllabus content with emphasis on topics of concern to participants. A complete review of the scoring of the AP examinations in the traditional format will be given as well as suggestions if this year’s ‘new normal’ stays normal for longer than expected. The focus is on bringing the best teaching techniques and strategies to the classroom. You will need a laptop and access to the internet for our synchronous and asynchronous sessions. You will receive electronic copies of the most popular textbooks as well as hard copies of the AP Statistics CED and scoring samples of the 2019 examination.

Please register at [www.tinyurl.com/CSEWorkshop](http://www.tinyurl.com/CSEWorkshop)

In-person Workshop: $695 by July 21, $795 after July 21
Online Workshop: $595 by July 21, $695 after July 21
(We offer a 20% discount for Catholic School teachers)

In addition to registering on our website, **all participants need to register through the College Board website as well.** These workshops offer ACT 48 Credits.

**Comments from Previous Workshops**

“I have been fortunate to attend many AP 1-day workshops and other professional sessions during my career. Rarely have I had the pleasure of the professionalism, knowledge, and prior preparation that [Rev Dr. Joseph Oechsle] exhibited. Joe is a master teacher, and his passion for teaching and the subject was evident. I shall gladly recommend Joe to any colleague searching for excellent instruction.”
<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Topics</th>
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<tr>
<td></td>
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<td><strong>Overview of the course; beginning and organizing the course; simulation and the logic of inference; focus on design of experiments; the structure and grading of the traditional exam</strong></td>
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<tr>
<td>Monday</td>
<td>AM</td>
<td>Guided overview of CED; exercises in analyzing and grading design of experiments exam questions; a first encounter with the Rossman blog</td>
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<td></td>
<td>PM*</td>
<td><em>(optional) An opportunity to clarify/discuss what happened in the synchronous session, the asynchronous materials, your concerns and needs as you prepare for the next academic year</em></td>
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<td>Eve</td>
<td><em>(optional)</em></td>
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<tr>
<td>Tuesday</td>
<td>AM</td>
<td>Reinforcement and clarification of DOE issues with examples and guided practice; overview of exploratory data analysis; introduction to probability; more simulation.</td>
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<td></td>
<td>PM*</td>
<td>Practice analyzing and grading classic design of experiments questions; CED – course units, skills, and planning; the Rossman blog II.</td>
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<td></td>
<td>Eve</td>
<td><em>(optional) Clarify and extend the synchronous and asynchronous and your questions for your course</em></td>
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<tr>
<td>Wednesday</td>
<td>AM</td>
<td>Focus on simulation and probability; emphasis in AP stats; sampling distributions; examples and analysis of past ‘traditional’ exam questions; introduction and overview of inference</td>
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<td>PM*</td>
<td>Overview of AP Classroom; grading and analysis of selected probability questions; Rossman blog III; explore your text and compare the ebooks</td>
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<td>Eve</td>
<td><em>(optional) Issues and concerns from today’s work as well as your prep</em></td>
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<td>Thursday</td>
<td>AM</td>
<td>Developing inference Activities to reinforce inference</td>
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<td></td>
<td>PM*</td>
<td>Web resources; Structured review Preparation for MC exam questions Evaluations and Wrap-up</td>
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<td></td>
<td>Eve</td>
<td><em>(optional)</em></td>
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About the Instructors

In-Person APSI: Rev. Dr. Joseph Oechsle has taught at the Malvern Preparatory School for 38 years - AP Calculus AB and BC, AP Statistics, AP Latin, AP German, Comparative Religions, Logic, Introduction to Philosophy, and all levels of mathematics. He also serves as an adjunct in mathematics at St. Joseph's University, Villanova University, and Montgomery County Community College. He is a faculty consultant to the College Board in AB Calculus AB and BC and in AP Statistics and presents annually in the Kentucky Science and Technology Corporation program for rural public schools, and Project Reach in New York. He has read the AP Calculus and AP Statistics examinations and now is an AP Table Leader in Statistics. He has been an active member of the Norriton Fire Company for 40 years.

Online APSI: Doug Tyson has taught mathematics and statistics to high school and undergraduate students for 24 years. He is currently a member of the ASA/NCTM Joint Committee on Curriculum in Statistics and Probability. Doug looks forward to the AP Statistics Exam Reading each year, currently serving as Table Leader. He has developed instructional materials, supplemental resources, and manuals for several college and high school Statistics textbooks. Doug is the co-author of a recent curriculum module for the College Board, conducts student review sessions around the country, gives local and national workshops on teaching statistics, and serves as a judge in the ASA Poster competition. He recently worked on The Practice of Statistics, 5th edition, where he helped develop the supplementary materials. Most importantly, Doug loves teaching Statistics.
About The Workshops

The **online workshops** will be held via Zoom.

The **in-person workshops** will be held at Villanova University, which is easy to get to via private or public transportation. Parking permits for the Main Lot will be provided for attendees. See below for more information about getting to Villanova and hotels. The specific room location will be shared after registration is complete. **Lunch** each day is included in the cost of the workshop. Vegetarian options are available. If you have any specific dietary restrictions, please let us know.

A **certificate of completion** will be provided to participants at the end of the workshop. A **website** for each workshop will be available to access workshop information, both during the workshop and afterwards. Please bring a **laptop** with you.

These workshops are provided through the Center for Statistics and Data Science Education. The Center for Statistics and Data Science Education is a Center of Excellence in the College of Liberal Arts and Sciences at Villanova University. The overall goals of the Center for Statistics and Data Science Education include promoting quality research among faculty and working to improve statistics education in the curricula across disciplines at Villanova by creating programs in statistics education for current Villanova students. The Center also provides professional development for statistics teachers in the greater Philadelphia region at the K-16 levels and conducts research on effective methods in statistics instruction and pedagogy.

If you have any questions about the workshops or the Center, please contact us at **cse@villanova.edu** or call Maria Barrett at 610-519-4850.
Campus map

For a detailed campus map, please go to:
https://www1.villanova.edu/content/dam/villanova/conferenceservices/documents/Map+Directions-VillanovaConferenceServices9-12.pdf

Getting to Villanova University

By Car To Main Parking Lot from US Rt 30/Lancaster Avenue

**From New York and New England:** Take the New Jersey Turnpike to Exit 6 (Pennsylvania Turnpike exit). Follow the Pennsylvania Turnpike to Exit 20 (Mid-County Interchange). Take the second exit ramp (I-476 South/Chester). Take I-476 South to Exit 13 (US 30 - St. Davids/Villanova). Proceed east on Route 30 (Lancaster Avenue) for 3/4 mile and at the sixth traffic light turn right onto Ithan Avenue and into the main parking lot.

**From the West:** Take the Pennsylvania Turnpike to Exit 326 (Valley Forge). Take I-76 (Schuylkill Expressway) to Exit 331A (I-476 South/Chester). Take I-476 South to Exit 13 (US 30 - St. Davids/Villanova). Go right/east on Route 30 (Lancaster Avenue) for 3/4 mile and at the sixth traffic light turn right onto Ithan Avenue and into the main parking lot.

**From the South:** Take I-95 North to Exit 7 (I-476 North-Plymouth Meeting). Take I-476 North to Exit 13 (US 30 - St. Davids/Villanova). Go right/east on Route 30 (Lancaster Avenue) for 3/4 mile and at the fifth traffic light turn right onto Ithan Avenue and into the main parking lot.

By Train

Take [AMTRAK](https://www1.villanova.edu/villanova/admission/visit/maps.html) or New Jersey Transit (via SEPTA) to the 30th Street Station in Philadelphia. Ask the attendant to direct you to the Regional Rail Trains (SEPTA). Take the [Paoli/Thorndale Local](https://www1.villanova.edu/villanova/admission/visit/maps.html) train to the Villanova Station, located on our campus. **Wheelchair access:** All Airport and Center City stations are wheelchair accessible, however, Villanova Station is not. Continue on the train past Villanova to the wheelchair accessible Wayne Station and from there take a taxi (prearranged) to the Villanova campus.

By Plane

Arrange to fly into Philadelphia International Airport, which is located 30 minutes by car from the Villanova campus.

This information on getting to Villanova can be found online at:
http://www1.villanova.edu/villanova/admission/visit/maps.html

More information about getting to and from campus can be found at:
http://www1.villanova.edu/villanova/studentlife/parents/visit/travel.html

Hotels Near Villanova

For a list of nearby hotels, please go to:
http://www1.villanova.edu/villanova/studentlife/parents/visit/hotels.html