2017 Advanced Placement® Chemistry

About the AP® Chemistry Summer Institute
The Advanced Placement Summer Institute in Chemistry at the UNIVERSITY OF GEORGIA is designed for both new and experienced teachers. The workshop will cover five of the major topics covered in AP Chemistry. This will include the teaching of stoichiometry, thermo-chemistry, kinetics, equilibrium, and oxidation-reduction chemistry. These topics will be taught with a focus of utilizing the science practices and learning objectives published in the current course description. The workshop will place a strong focus on inquiry labs and the current released questions for study. The participants will have the opportunity to share best practices and materials that can help their own classroom presentations.

Learning Outcomes
Understand the Chemistry course description and its emphasis
Understand the application of the Big Ideas and Learning Objectives as published
Understand teaching techniques for challenging the students into doing well on the Inquiry Labs
Understand College Board administrative procedures for syllabus and audit
Understand the resources available on the AP Chemistry Community to be used in your classroom
Understand how to prepare students for the AP Chemistry exam by reviewing the samples and types of questions expected

The tentative time line is listed below, but is always subject to change.

Monday: First Session: Introductions: Instructor and participants.
Introduction to Advanced Placement Chemistry as defined by The College Board
Introduction to Acorn Book
Course Outline and Resources for Classwork
Course Description and Textbook Selection
A P Exam Construction and Comments
Sample Timelines and topics covered.

Monday: Second Session
Introduction to Stoichiometry
Analysis of Typical AP Problems from recent exams
Multiple Choice and Free Response Sample Questions
Do a lab to collect data (Bicarbonate and acid) typical data
Use of TI graphing calculator or excel spreadsheets to analyze Lab data
Print graph and write ‘AP’ style analysis questions.
(Lab report to be completed by participants)

Tuesday: Third Session
Questions and Comments from Participants
Topic: Thermochemistry
Comments on timing of the course and material coverage
Focus on Lab: Heat and Stoichiometry
Analysis of data and lab report
Introduction to Textbook Examples and coverage
Analysis of Typical AP problems from recent exams
Typical outline for Kinetics and sample problems

Tuesday: Fourth Session
Continue the focus on Thermo-chemistry and thermodynamics
Analysis of Typical AP problems from recent exams
Focus on Lab: to Collect Data on thermo-chemistry:

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(Temperature change in Chemical Reactions.)
(Complete Data analysis from lab) analysis and lab report

**Wednesday: Fifth Session**
**Third Day Refresher...**
**Question and Comments from Participants**
Comments on topic coverage and importance
Focus on Acid-Base Chemistry
Analysis of Typical AP problems from recent exams

**Wednesday: Sixth session**
Focus on lab: acids-base chemistry (continued)
Analysis of more AP problems from recent exams.
Equilibrium in Chemical Reactions and Acid Chemistry
(Complete Data analysis from lab)

**Thursday: Seventh Session:**
**Questions and comments from participants**
Typical Lab to Collect Data:
Acid-Base reaction and discussion of half titration lab
Complete Data analysis from lab

Focus on Equilibrium Aspect of acid and bases
Analysis of typical AP problems from recent exams.
Focus on lab: Equilibrium situations:
Examining change through Chemical Reactions.
Complete Data analysis from lab

**Thursday: Eighth Session**
Examination of the 2011 equilibrium problems
Acid base lab, results and analysis
Commentary and Hints.
As time allows: Focus on Oxidation-Reduction Chemistry
Discussion of demonstrations for electrochemistry
Focus on Lab: Electrochemistry of metals two demos
Review and round-up

**What to bring:**
- A personal laptop computer & a flash drive to help share the materials from other participants
- A TI graphing calculator
- Your AP textbook
- Closed-toed shoes, goggles and clothing appropriate for working in the laboratory
- Comfortable clothes and shoes for walking in the summer heat
- A light sweatshirt or sweater in case you get chilly in the AC

**Instructors:**
**Jim Cortez** is a recently retired AP Chemistry teacher with over 37 years’ experience in presenting chemical concepts using simple measurements and using easily available chemical supplies. He has been a reader for the exam and a question leader and has been a College Board consultant since 1990, presenting one-day conferences and one-week AP Summer Institutes. Currently he is using this time to redefine his skills of using technology in the chemical lab and writing presentations to enhance lab success.

**Penney Sconzo** received her B.S. degree from Furman University and her M.S. degree from Clemson University. Working since 1983 in both public and private high schools, she has taught all levels of chemistry as well as occasional classes in biology, microbiology, biochemistry, and organic chemistry. After teaching 27 years at the Westminster Schools in Atlanta, Georgia, Penney retired and moved on to Kennesaw State University where she is currently teaching freshman chemists. She has been honored as a two-time recipient of the Georgia Science Teacher of the Year award, the Chemical Manufacturers Association Regional Catalyst Award,

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a state winner for the Presidential Award for Science, the Reg Friesen Award, and a national Tandy Award winner.

Penney does presentations and workshops involving chemical demonstrations, microchemistry, and calculator/laboratory technology at state, regional and national conventions, including NSTA and CHEMED/BCCE conferences. For years, Penney has been a state/local/national leader in bringing chemistry into the classroom where it is needed. She was a lead teacher in chemistry for the Woodrow Wilson TORCH program, served as co-chair/instructor of the T3 CHEMBIO program, served as a member of the ACS test writing committee, and led one of the Flinn Scientific Foundation teams that presented summer workshops across the country. Watch her Flinn videos. Visit the website, adamequipment.com, to see some of the labs she has written for teachers. You can also view some of her chemistry videos on YouTube, search for PSconzo. Today, her favorite element is gallium!