Course Title: AP Chemistry **Board Approval Date: June, 2010**
Credit / Hours: 1 credit

Course Description:

This course focuses on mastery of the PA Academic Standards for Science and Technology. The AP Chemistry course is designed to be the equivalent of the general chemistry course usually taken during the first college year and should be taken after the successful completion of an initial course in high school chemistry. The college course differs qualitatively from the usual first secondary school course in chemistry with respect to the kind of textbook used, the topics covered, the emphasis on chemical calculations and mathematical formulation of principles, and the kind of laboratory work done by students.

Learning Activities / Modes of Assessment:

Large group instruction	Tests and Quizzes
Laboratory experiments	Checklists / Teacher Observation
Small group work	Projects with Rubrics
Computer simulations	Lab Journals / Write-ups

Instructional Resources:

- Text, *Chemistry* by Zumdahl and Zumdahl, 8th ed., Houghton Mifflin Company, 2010.

Supplemental Materials

- *AP Interactive Student Resource CD-ROM*
- *Fast Track to a 5 for AP Chemistry,* Eighth edition; Houghton Mifflin Company, 2010.
- Lab Manuals: *Experimental Chemistry*, Seventh Edition; Hall, James F.;Houghton Mifflin Company; 2007.
- *Advanced Chemistry with Vernier*: Experiments for AP, IB, and College General Chemistry; Randall, Jack; Vernier Software & Technology; 2004.
- *Laboratory Experiments for Advanced Placement Chemistry*; Vonderbrink, Sally Ann; Flinn Scientific, Inc.; 1995.

Online Resources:
Class Wiki
Virtual Lab Sites

Course Pacing Guide

Course: Advanced Placement Chemistry

Course Unit (Topic)	Length of Instruction
1. Introductory and review concepts (Chapters 1 – 3)	4 periods
2. Types of Chemical Reactions and Solution Stoichiometry: Chapter 4	12 periods
3. The Kinetic-Molecular Theory and States of Matter: Chapters 5 & 10	12 periods
4. Thermochemistry: Chapter 6	12 periods
5. Atomic Structure and Periodicity; Nuclear Structure: Chapters 7 and 21	10 periods
6. Bonding and Molecular Structure	14 periods
7. Solutions and Colloids	14 periods
8. Spectroscopy and Chromatography	16 periods

9. Chemical Kinetics: Chapter 12	12 periods
10. Chemical Equilibrium: Chapter 13	12 periods
11. Acids and Bases: Chapter 14	6 periods
12. Weak Ionic Equilibrium: Chapter 15	12 periods
13. Chemical Thermodynamics: Chapter 16	12 periods
14. Electrochemistry: Chapter 17	6 periods
15. Transition Metals and Coordination Chemistry: Chapter 20	6 periods