Department of Teaching & Learning
Parent/Student Course Information

Advanced Placement Chemistry
(SC 4440)
One credit, One year
Grades 11-12

Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.

COURSE DESCRIPTION
Advanced Placement Chemistry is a college-level course that deals with advanced concepts in chemistry. The course is designed in accord with the requirements of the College Board. Students are expected to take the Advanced Placement Chemistry Examination at the end of the course.

COURSE GOALS
• Develop an in-depth understanding of the fundamentals of general chemistry
• Develop reasonable competence in dealing with chemical problems
• Develop the ability to think clearly and to express ideas orally and in writing with clarity and logic

PREREQUISITE
Chemistry

OPTIONS FOR NEXT COURSE
Advanced Placement Environmental Science (Biology and Chemistry prerequisite)
Advanced Placement Biology (Biology and Chemistry prerequisite)
Advanced Placement Physics 1 (Algebra II/Trigonometry prerequisite)
Advanced Placement Physics C: Mechanics (Algebra II/Trigonometry and Calculus prerequisite)
Earth Science
Biology
Oceanography (Earth Science prerequisite)
Astronomy (Earth Science prerequisite)
Physics (Algebra II prerequisite or co-requisite)

REQUIRED TEXTBOOK

MINIMUM REQUIREMENTS
• Demonstrate knowledge and understanding of all core objectives through laboratory investigations, projects, oral and/or written tests, quizzes and reports
• Participate in the laboratory activities, prepare written laboratory reports and adhere to all safety procedures
• Read science journals, magazines and books to expand the ideas and topics presented in class
The Knowledge, Skills and Attitudes that Comprise the Advanced Placement Chemistry Course are Summarized as Follows From the Prescribed Curriculum:

BIG IDEAS AND KNOWLEDGE

Big Idea 1: Chemical Elements
- Atomic Structure
- Periodicity
- Coulomb’s Law

Big Idea 2: Chemical and Physical Properties
- Chemical bonding
- Intermolecular forces
- Dipole forces
- London dispersion

Big Idea 3: Changes in Matter
- Reaction types
- Stoichiometry
- Products of Chemical reactions

Big Idea 4: Rate of Chemical Reactions
- Reaction rates
- Elementary reactions
- Catalysis Classes

Big Idea 5: Laws of Thermodynamics
- Thermodynamics
- Kinetics
- Electrostatic forces
- Net energy change

Big Idea 6: Chemical Bonding and Intermolecular Attraction
- Chemical equilibrium
- Le Châtelier’s principle
- Gibbs free energy

CORE AREAS FOR LABORATORY SKILLS AND EXPERIENCES
Laboratory investigations emphasize experimental procedures and the collection and analysis of quantitative data.
Notice of Non-Discrimination Policy

Virginia Beach City Public Schools does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation/gender identity, pregnancy, childbirth or related medical condition, disability, marital status, age, genetic information or veteran status in its programs and activities and provides equal access to the Boy Scouts and other designated youth groups. School Board policies and regulations (including, but not limited to, Policies 2-33, 4-4, 4-6, 4-43, 5-7, 5-19, 5-20, 5-44, 6-7, 7-48, 7-49, 7-57 and Regulations 4-4.1, 4-4.2, 4-6.1, 4-43.1, 5-44.1, 7-11.1, 7-17.1 and 7-57.1) provide equal access to courses, programs, counseling services, physical education and athletic, vocational education, instructional materials and extracurricular activities.

To seek resolution of grievances resulting from alleged discrimination or to report violations of these policies, please contact the Title VI/Title IX Coordinator/Director of Student Leadership at (757) 263-2020, 1413 Laskin Road, Virginia Beach, Virginia, 23451 (for student complaints) or the Section 504/ADA Coordinator/Chief Human Resources Officer at (757) 263-1133, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (for employees or other citizens). Concerns about the application of Section 504 of the Rehabilitation Act should be addressed to the Section 504 Coordinator/Executive Director of Student Support Services at (757) 263-1980, 2512 George Mason Drive, Virginia Beach, Virginia, 23456 or the Section 504 Coordinator at the student's school. For students who are eligible or suspected of being eligible for special education or related services under IDEA, please contact the Office of Programs for Exceptional Children at (757) 263-2400, Laskin Road Annex, 1413 Laskin Road, Virginia Beach, Virginia, 23451.

Alternative formats of this publication which may include taped, Braille, or large print materials are available upon request for individuals with disabilities. Call or write The Department of Teaching and Learning, Virginia Beach City Public Schools, 2512 George Mason Drive, P.O. Box 6038, Virginia Beach, VA 23456-0038. Telephone 263-1070 (voice); fax 263-1424; 263-1240 (TDD) or email her at Amanda.Malbon@VBSchools.com

vbschools.com
your virtual link to Hampton Roads' largest school system

No part of this publication may be produced or shared in any form without giving specific credit to Virginia Beach City Public Schools.

(Revised August 2017)