

Roanoke Valley Governor's School for Science and Technology
Advanced Placement Chemistry
Syllabus 2018-2019
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I. Course Information

a. Course Description

AP Chemistry is an in-depth laboratory-focused course equivalent to an introductory college course for science majors. The major themes include the phases of matter and the forces that produce them, the study of energy transfer in chemical reactions, how far chemical reactions proceed and how fast they go, and the role of electron transfer in chemical reactions. Students are expected to obtain a qualifying score of 3, 4, or 5 on the AP Chemistry exam at the end of this course.

b. Gifted education strategies

This course involves an extensive study of such topics as stoichiometry, atomic structure, chemical bonding, intermolecular forces, equilibrium, acid-base chemistry, kinetics, oxidation-reduction reactions, and electrochemistry. Spectroscopy and chromatography will be introduced and instruments such as the Vernier colorimeters and spectrophotometers will be used. Laboratory experimentation will involve the use of a laboratory notebook in which all methods, observations, data, calculations, results, and discussions will be recorded. Experiments will be performed at the college level. The laboratory experiments, class lecture and discussion, and group activities will be the primary means by which information will be communicated. Emphasis will be placed upon the acquisition of data via computer-interfaced equipment, as well as the graphical portrayal of data, and its statistical analysis, through the use of a variety of software.

c. Text, Printed Resources, and Media Resources

- i. *General Chemistry: Atoms First, 2nd Ed.*, John E. McMurry and Robert C. Fay, Pearson Prentice Hall, New Jersey, 2014.
- ii. Mastering Chemistry (Pearson Prentice Hall)
- iii. AP Chemistry Prep Course Review (Flinn Scientific)
- iv. Atomsmith (molecular visualization software)
- v. *CRC Handbook of Chemistry and Physics*, CRC Press (various editions)
- vi. *The Merck Index*, Merck & Company (various editions)

II. Grading Policy

a. Grading Scale

100-90%	A
89-80%	B
79-70%	C
69-60%	D
59-0%	F

b. Types of Evaluations

i. Tests:

Tests will be given periodically to assess work covered over an extended period of time. Material included on a given test will have been previously assessed using other formats. Generally, three or four tests (including a final) are given per semester. Tests are closed book, closed notes, individual assessments. No one test can count for more than 15% of the semester grade. ***If you miss the day prior to the test, and no new material was covered that day, you will take the test the day you return to school.***

ii. Quizzes:

Quiz formats may include both traditional (paper and pencil) quizzes and performance-based assessments. It is the student's responsibility to arrange an appointment outside of class time if additional one-on-one time is needed with the instructor to sufficiently master the relevant material.

iii. Labs

The laboratory experience will be the means by which many topics will be introduced. Students will be expected to ***read all material*** pertinent to the upcoming laboratory experiment before doing the experiment. Each student will record all information relating to the experiment in his/her laboratory notebook. ***Any lab that is missed must be made up*** (before or after school) unless Mr. Smith excuses you from it due to extenuating circumstances. Twenty five percent (25%) of the lab grade is from doing the lab in class; the remainder is from the lab report. Students will be expected to know and follow all pertinent lab safety rules for each experiment.

iv. Homework/Classwork

Homework will be given on a regular basis; however, not all homework assignments will be graded. Some of the graded homework assignments will be through an online homework service. It is the student's responsibility to complete all work assigned. Unless otherwise stated, ***homework is expected to be finished and ready to turn in at the beginning of class; online homework will have a due date and time for online submission.*** Long-term problem sets may be collected and graded; opportunities will be provided for students to ask questions before the due date of the assignment.

c. Semester Grade Determination

Category	Weight
Tests	33%
Labs & Safety	23%
Quizzes	22%
Homework	12%
Final Exam	10%

d. Final Grade Determination

The final grade is the average of the two semester grades. Students who fail to maintain a B average or above will be subject to the RVGS probationary policy.

III. Class Policies and Procedures

- a. Absences and tardies:** The policy in the RVGS student handbook will be followed.
- b. Make-up Work:** On the first day after an absence, it is the responsibility of the student to ask Mr. Smith for the date by which the work that was missed must be made up.
- c. Late-work policy:** Work turned in late will have twenty percent (20%) of the earned grade deducted from it for the first school day it is late. For the next two days that it is late, forty percent (40%) of the earned grade will be deducted from it; after that, no late work will be accepted, resulting in grade of zero for that assignment. The exception is lab reports, where you will receive a grade of 25% if you do not turn in the lab report within four days but were present on the day of the lab. *A signed note from a parent must be attached to all late work, acknowledging that it is being turned in late.*
- d. Cheating:** The policy in the RCPS student code of conduct will be followed.
- e. Technology Policy:** The RCPS Acceptable Use Policy and the RVGS student handbook policy will be followed.
- f. Extra help:** Your teacher serves as a facilitator for student learning. Help often takes the form of an answer to a question, or a leading question, or group brainstorming. Students are reminded that appointments are available when extra help is needed. Mr. Smith is committed to helping students one-on-one when needed, and is available for help before or after school (with prior notice and scheduling). It is important to *schedule an appointment (via email)* to ensure that he will be free to help.
- g. Home Access Center:** Grades are available at all times through Home Access Center. When viewing your grades, understand that:
 - i.** A blank in the grade book means that the assignment has not yet been graded. Teachers will have all assignments graded within 5 school days of the due date (with the exception of very long assignments which will be graded within 10 school days). You may have a blank because the teacher has not graded the class set or because your assignment was turned in after the due date. Blanks do not count as zeros in your average.
 - ii.** A zero in the grade book means that you have earned a zero on the assignment. Cases in which this might occur include submitting incorrect answers to an assignment or submitting an assignment past the due date.
 - iii.** An excused (EX) in the grade book means that you are excused from the assignment without penalty.

- h. Interim Reports:** A hard copy of your current grade will be given to you to take home three times during each semester (see dates on the school calendar). The interim report is a snapshot of the current class average. Please feel free to discuss your report with your instructor.
- i. Student Performance Strategy:** Interventions will be implemented at the teacher's discretion or in the event that the student's grade falls below an 80.
- j. General classroom procedures**
 - i. Food and Drinks**

No food or drinks are allowed in the lab areas at any time. Drinks will be permitted in the classroom area provided the student does not abuse the privilege.
 - ii. Thumb Drive**

Each student is encouraged to have his/her own USB thumb drive for use in this class. When a small group of students is doing a cooperative activity on the computer, each student should save the data and/or results on his thumb drive AND on his file server account immediately after the activity has concluded. All computer-generated files should also be saved on the file server.
 - iii. Laboratory Safety**

Safety in the laboratory is of vital importance. ***Safety rules will be followed at all times.*** A student's failure to follow safety guidelines will result in his/her dismissal for the remainder of the experiment, and a zero grade for that lab. A second dismissal will require a meeting of the student with the Director and the instructor.
 - iv. Electronic devices (cell phones, tablets, iPods, etc.)**

The cell phone policy in the student handbook will be followed. If parents need to contact a student during class, they should call the front office.
Electronic devices of any sort that are visible during a quiz or a test without Mr. Smith's permission will automatically be viewed as evidence of cheating, which will result in a grade of zero for the assessment and possible dismissal from RVGS.