**Roanoke Valley Governor’s School for Science and Technology  
Advanced Placement Chemistry  
Syllabus 2023-2024**

**Joanne Villers → jvillers@rvgs.k12.va.us**

1. **Course Information**
   1. **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.

* 1. **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 lectures and discussions, 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, using a variety of software.

* 1. **Text, Printed Resources, and Media Resources**
  2. *General Chemistry: Atoms First,* *2nd Edition,* John E. McMurry and Robert C. Fay, Pearson Prentice Hall, New Jersey, 2014.
  3. Aktiv Chemistry (online homework & assessment software)
  4. AP Classroom (online homework & assessment site)
  5. *CRC Handbook of Chemistry and Physics,* CRC Press (various editions)
  6. *The Merck Index,* Merck & Company (various editions)

1. **Grading Policy**
   1. **Grading Scale**

100-90% **A**

89-80% **B**

79-70% **C**

69-60% **D**

59-0% **F**

* 1. **Types of Evaluations**
     1. **Tests:**

Tests will be given periodically to assess work covered over an extended period. 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.***

* + 1. **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.

* + 1. **Labs**

The laboratory experience will be how 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/their laboratorynotebook. ***Any lab that is missed must be made up*** (before or after school) unless your teacher excuses you from it due to extenuating circumstances. Twenty-five percent (25%) of the lab grade is from performing 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.

* + 1. **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 Aktiv Chemistry or AP Classroom. 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.

* 1. **Semester Grade Determination**

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| --- | --- |
| **Category** | **Weight** |
| Tests | 33% |
| Labs & Safety | 25% |
| Quizzes | 20% |
| Homework | 10% |
| Final Exam | 12% |

* 1. **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.

1. **Class Policies and Procedures**
   1. **Absences and tardies:** The policy in the RVGS student handbook will be followed.
   2. **Make-up Work:** On the first day after an absence, ***it is the responsibility of the student*** to ask his/her/their teacher for the date by which the work that was missed must be made up.
   3. **Late-work:** Work turned in late will have points deducted from it according to the following schedule:  
      Homework: 50% for one calendar day late and no credit thereafter  
      Labs: 20% per calendar day with a minimum grade of 25% for performing the lab  
      If you have extenuating circumstances, you must contact the teacher at least one day before the assignment is due to be considered for an extension.
   4. **Cheating:** The policy in the RVGS student handbook will be followed.
   5. **Technology Policy:** The RCPS Acceptable Use Policy and the RVGS student handbook policy will be followed.
   6. **Extra help:** Your teacher serves as a facilitator for student learning. Help often takes the form of an answer to a question, a leading question, or group brainstorming. Students are reminded that appointments are available when extra help is needed. Your teacher 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 she will be free to help.
   7. **Online grades:** Grades are always available through Synergy. When viewing your grades, understand that:
      1. 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.
      2. 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.
      3. An excused (EX) in the grade book means that you are excused from the assignment without penalty.
   8. **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 your current class average. Please feel free to discuss your report with your instructor.
   9. **Student Performance Strategy:** Interventions will be implemented at the teacher’s discretion or if the student's grade falls below 80.
   10. **SEC Notification:** Per Virginia Code (§ 22.1-16.8), parents must be aware of the use of any instructional materials with explicit content.  No explicit materials are used in this course.
   11. **General classroom procedures** 
       1. **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.

* + 1. **Thumb Drive**

Each student is encouraged to have his/her/their 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/her/their thumb drive AND on his/her/their file server account immediately after the activity has concluded. All computer-generated files should also be saved on OneDrive.

* + 1. **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/their dismissal for the remainder of the experiment, and a grade of zero for that lab. A second dismissal will require a meeting of the student with the Director and the Instructor.

* + 1. **Electronic devices (cell phones, smartphones, earbuds, 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 your teacher’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.*