A. Description

AP chemistry meets daily for one 50-minute class period. To fulfill the time necessary to complete some labs we utilize the lunch periods and/or before or after school. This gives us the extra time required by the college board. Students receive 1.5 credits for this course with the extra time requirement. This course is designed to meet the objectives of a good college general chemistry course. The course should contribute to the development of the students’ abilities to think clearly and to express their ideas, orally and in writing, with clarity and logic. The labs serve to supplement the learning in the lecture section of the course. Problem-solving skills, both on paper and in the lab, are emphasized. In each laboratory experiment, students will physically manipulate equipment and materials in order to make relevant observations and measurements. In collaboration with other students the collected data will be used to form conclusions and verify hypotheses. The results and procedures will be communicated in a formal, written report to the teacher.

B. Organization

This course is structured to be a lecture-lab course with topics being presented through the use of many different types of media and supplemented by hands on lab instruction and investigation. Teacher demonstrations and group activities will also increase interest and learning. In class assignments, homework, quizzes and labs will be assigned by the instructor with a unit exam following completion of each unit and a semester final exam. Students may take the AP exam in May. Surveys of students taking the AP Chemistry Exam indicate that performance improved as both the total instructional time and time devoted to laboratory work increased. Students in an AP chemistry course should spend at least five hours a week in individual study outside of the classroom.
C. Course Topics

1. Atomic theory and structure

2. Electron energy levels: atomic spectra, quantum numbers, atomic orbitals

3. Periodic relationships including, atomic radii, ionization energies, electron affinities, oxidation states

4. Types of bonds: ionic, covalent, metallic, hydrogen bonding, van der Waals

5. Polarity of bonds, electronegativities

6. VSEPR and resonance

7. Geometry of molecules and ions, structural isomerism of simple organic molecules and coordination complexes

8. Nuclear chemistry: nuclear equations, half-lives, and radioactivity; chemical applications

9. Kinetic molecular theory-gas laws

10. Types of solutions and factors affecting solubility

11. Methods of expressing concentration

12. Acid-base reactions; concepts of Arrhenius, Bronsted-Lowry, and Lewis

13. Oxidation-reduction and precipitation reactions

14. Electrochemistry: electrolytic and galvanic cells, Faraday’s laws, standard half-cell potentials, Nernst equation

15. Stoichiometry

16. Balancing of equations, including those for redox reactions

17. Empirical formulas and limiting reactants

18. Kinetics: effect of temperature change on rates

19. Thermodynamics: enthalpy, Hess’s law, calorimetry
D. Text and Required Supplies

1. Textbook: Chemistry; the Central Science (Theodore E. Brown)
2. Laboratory Experiments for Advanced Placement Chemistry second edition
3. Laboratory notebook
4. Lab supplies of latex gloves shared with lab partners

E. Grading Plan

Grade percentages are in accordance with local grading policy and work done in this course will be weighted as stated below:

**Six Weeks Grades**

- Minor Assignments 40%
  (In Class Assignments, Homework, Quizzes, and Labs)

- Major Assignments 60%
  (Unit Exams and formal lab reports)

**Semester Grades**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Six Weeks Grades</td>
<td>27.27%</td>
</tr>
<tr>
<td></td>
<td>(27.27% x 3 = 81.81%)</td>
</tr>
<tr>
<td>Semester Finals</td>
<td>18.19%</td>
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</tbody>
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81.81% + 18.19% = 100%

**Minor Assignments:**
These assignments will include some in class daily assignments, quizzes, labs, and notebook checks. A minimum of eight grades will be recorded in this category each six weeks.

**Major Assignments:**
These assignments will include some curriculum based assessments, unit exams, and benchmark exams. There will be a minimum of three recorded grades in this category each six weeks.

**Semester Final:**

The semester final will be a comprehensive curriculum based assessment and will be administered according to the schedule that is released at the end of the semester.
**Late Work:**
Assignments will be accepted for one day after the teacher has notified the student that the assignment is late with the maximum possible grade being 70%. It is required that late work be submitted directly to the teacher. In the event of excused absences the make-up work policy described in the student handbook will be used. It is the student’s responsibility to request make-up work and schedule any make-up test after absences. Work will only be accepted for the allotted amount of time provided by the teacher when make-up work is assigned. After that time has passed late work policies will be enforced.

**F. Attendance**
Missed labs will be made up on Monday or Thursday afternoons. Attendance is an important aspect of student success. Research has demonstrated that student success and class attendance are directly correlated therefore students are expected to attend class on a daily basis. The districts attendance policy is available for viewing at [http://www.palestineschools.org](http://www.palestineschools.org).

**G. General**
Students recorded grades are available for your viewing at a time that is convenient for you. If a parent is interested in reviewing a student’s grades and attendance record online through Skyward Family Access they should request the web address and password from the main office.

Academic dishonesty includes cheating, copying the work of another student, plagiarism (whether intentional or unintentional), and any unauthorized communication between students during examinations. The determination that a student has engaged in academic dishonesty shall be based on the judgment of the classroom teacher or other supervising professional employee, taking into consideration the written materials, observation, or information from the students. Students found to have engaged in academic dishonesty shall be subject to disciplinary and or academic penalties.

**H. Classroom Rules of Conduct**

1. All safety rules will be strictly enforced. Failure to follow safety guidelines will result in removal from the lab.
2. Students are to respect all members of the classroom community.
3. Students should come to class prepared to learn.
4. Students will be counted tardy if they are not in their assigned seat when the bell rings. After fifteen minutes a student is counted absent.
5. Students should always put forth their very best effort.

FAILURE IS NOT AN OPTION!!!
I. Emergency Procedures

Evacuation procedures are posted in the classroom and should be followed when deemed necessary. First aid kits are available in the classroom and after initial care the student will be referred to the school nurse.

J+. Suggestions for Success

The best way to predict your future is to create it!