AP Chemistry Course Syllabus
Instructor: Brian Gallagher

Email: Brian.Gallagher@rcsdk12.org
Room: A334 ex. 3340

Course Description:

This course is designed to introduce students to the fundamental concepts in chemistry, the science that studies the materials of the universe and the changes that these materials undergo. Learning chemistry can be very rewarding and exciting because it provides explanations for real world phenomena. The goal of his course is to provide students with the knowledge and opportunity to apply scientific thinking and relate concepts, principles, and theories in chemistry to their everyday lives.

AP Chemistry is an intense course of study intended to prepare students for the Advanced Placement Exam, which will be given on Monday, May 1, 2017. (in about 160 school days) Since this is a college level course taught in high school, it is very demanding, both in time and effort required.

Upon completion of this course, students are expected to have developed the following:

- A deep understanding of fundamental concepts in chemistry
- Critical thinking skills
- Proficiency in chemistry laboratory procedures
- Mastery in solving math-based chemistry problems

The AP Chemistry Exam:

Exams are independently graded using the scale below.

5 = extremely well qualified (A)
4 = well qualified (A-, B, B+)
3 = qualified (B-, C, C+)
2 = possibly qualified
1 = no recommendation

Students who score 3 or above are considered to have passed the exam, and will receive credit from *most* colleges in the United States. Exam scores are sent out in July.

The AP Chemistry Exam is formatted as follows:

Section I – 50% of your score - 90 minutes – 60 multiple choice questions, NO calculator

Section II – 50% of your score -105 minutes
Long Free Response (3 questions)
Short Free Response (4 questions)

We will discuss these in more detail throughout the year.

Grading Policies:

- All grades will be entered into the District's online grading system, Power Teacher. Parents can view their students' grades at https://parentconnect.rcsdk12.org/.
- Grades for this course will be broken down into weighted categories:

Classwork/Homework/Labs	20%
Tests/Quizzes	80%

- Classwork will be based on activities in class and on participation in classroom discussions.
- Quizzes will be given every Friday on the material we were covering.
- Unannounced quizzes will be given without warning on the assigned reading
- Tests will be announced will mostly cover a broader topic.
- Homework will be assigned everyday as written assignments and is collected and graded.
- For LEGAL ABSENCES late and incomplete assignments can be handed in late and 2 point will be subtracted for each day it is late.

Parent Conference dates:

- SOTA CURRICULUM NIGHT
  Wednesday, September 14, 2016 6:30 - 8:30 PM

- SOTA PARENT CONFERENCES

Thursday, October 13, 2016	5:00-7:00 PM
January, 12, 2017	5:00-7:00 PM
Thursday, March 16, 2017	5:00-7:00 PM

Lab Policies:

Lab Binder

Because colleges may request to see evidence of student participation in laboratory activities, each student is required to keep documentation of laboratory experiences. The Lab Notebooks should be compiled as follows:

1. Table of Contents
2. Laboratory Safety Guidelines
3. Formal Lab Reports – with graphs, data table, etc.

Lab Report Format

Lab Reports are to written in notebook or typed and printed out as instructed. These may be double-sided to save paper. Use the following format:

Title
Date
Name

I. Objective(s): *What is the purpose of the lab? Use **complete sentences**.*

II. Concept(s): *What concept (theory, law, etc.) is being illustrated in the lab? Use **complete sentences**.*

III. Procedure: *This should be a short summary of the procedure provided in the lab handout – it should not be in complete sentences. Number the steps.*

IV. Data: *This section may include data that is qualitative (observations) and/or quantitative (measurements). Measurements must include proper units and significant figures. Graphs and data tables may either be hand-written or computer-generated.*

V. Analysis: *Analysis questions will be included in each lab. These must be numbered and answered in **complete sentences**. Any calculations MUST be shown. Calculations should be hand-written.*

VI. Discussion & Conclusion: *This section should include an explanation of your results and include sources of error – what went wrong and WHY? What did you learn from this lab activity? Use **complete sentences**.*

Required Materials:

- Binder with loose leaf paper for notes and to organize handouts.
- Pens and pencils, as well as colored pencils
- Textbook – BRING IT TO CLASS WITH YOU
- SCIENTIFIC calculator

Class Structure:

The model for this class will be different from most traditional classes. The bulk of the notetaking and outlines of the material will be done as homework. The activities and practices that would be more traditionally considered homework assignments will be done in class. This will free up class time for more in depth study of the material.

Student Expectations:

Since this is a college level course taught in high school, it is very demanding, both in time and effort required. Students should be prepared to spend at least one hour each night after school on their AP Chemistry homework, readings, and/or lab reports. Those students who are heavily involved in after school activities and/or jobs will have to learn to budget their time very carefully.

- Do the assigned READING before attempting the problems
- Do your homework the night it is assigned, and have your questions ready
- Always look at example problems in the book
- Form study groups
- Come to office hours as there is going to be a dedicated AP afterschool day as well as time during the day
- Turn in lab reports on time
- Do not allow yourself to fall behind. Getting "caught up" is harder than keeping up.

Classroom Expectations:

- Be on time, Be prepared, Be engaged.
    - Early is on time! On time is late!
- Cell phones and all Electronics are prohibited in ALL classrooms.
    - To include but not limited to: ear buds, headphones, IPODS.
- The Dress code will be strictly enforced.
    - To include but not limited to: Hats, hoodies and bandanas as well as what is prescribed by the school handbook and posters.
- Disrespect/Disruption to the educational process is prohibited.
    - To include but not limited to: bullying, profanity, food consumption and personal grooming.
- NON-NEGOTIABLES – Immediate removal from classroom
    - To include but not limited to: Fighting; both physical and verbal, vandalism, theft, chronic disruption, and suspicion of being under the influence of illegal substances.
    - ANY DISRUPTION IN LAB – THIS IS A SAFETY ISSUE
- CONSEQUENCES: To include but not limited to:
    - Verbal/non-verbal warning/contact log, Move the student's seat, Parent contact, Lunch detention, After school detention, Conference with administrator
- TARDY:
    - Students arriving late should sign in and be seated. If you arrive with a pass clip it to the sign in. I will speak to you when there is time later. One tardy a marking period will be tolerated, after that a consequence will be issued.

Chapters in Zumdahl Chemistry	**AP Chemistry Topic Covered**
1. Chemical Foundations	None
2. Atoms, Molecules, and Ions	Atomic Theory & Atomic Structure **(BI 1 & 2)**
3. Stoichiometry	Stoichiometry **(BI 3)**
4.Solution Stoichiometry & Chemical Analysis	Reaction Types & Stoichiometry **(BI 3)**
5. Gases	Gases **(BI 1 & 2)**
6. Thermochemistry	Thermodynamics **(BI 5)**
7. Atomic Structure and Periodicity	Atomic Theory & Atomic Structure **(BI 1 & 2)**
8. Bonding -- General Concepts	Chemical Bonding **(BI 1 & 2)**
9. Covalent Bonding: Orbitals	Chemical Bonding **(BI 1 & 2)**
10. Liquids and Solids	Liquids & Solids **(BI 1 & 2)**
11. Properties of Solutions	Solutions **(BI 2)**
12. Chemical Kinetics	Kinetics **(BI 4)**
13. Chemical Equilibrium	Equilibrium **(BI 6)**
14. Acids and Bases	Equilibrium **(BI 6)**
15. Applications of Aqueous Equilibria	Equilibrium **(BI 6)**
16. Spontaneity, Entropy, and Free Energy	Thermodynamics **(BI 5)**
17. Electrochemistry	Reaction Types **(BI 3)**
18. The Nucleus -- A Chemist's View	Nuclear Chemistry
19. The Representative Elements: Groups 1A Through 4A	Descriptive Chemistry **(BI 2)**
20. The Representative Elements: Groups 5A Through 8A	Descriptive Chemistry **(BI 2**)
22. Organic Chemistry	Descriptive Chemistry
AP Chemistry Exam Review	All