

AP Chemistry Syllabus 2020-2021

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Mr. Grulke's Schedule:

1 st period	Planning	Room 2114
2 nd period	Enriched Chemistry	Room 1115
3 rd period	PLC Collaboration	Room 1404
4 th period Early	Enriched Chemistry	Room 2113
	<i>Lunch</i>	
5 th period Late	Enriched Chemistry	Room 2114
6 th period	AP Chemistry	Room 2114
7 th period	AP Chemistry LAB	Room 2114
8 th period	AP Chemistry	Room 2114

Help Sessions:

I am available by appointment:

- Before school
- Period 1
- Period 3
- After school

Seminar will also be available every Wednesday.

Required Materials

Please bring the following to class each day:

- **Chromebook**
- **2-inch, 3-ring binder** with a minimum of 5-divider tabs; lined notebook paper
- Pencil or black/blue pens for notes and practice
- **Scientific graphing calculator** (*For the free response section of the exam any programmable or graphing calculator may be used, with a few exceptions*)
- **Lab notebook** (Quadruled Composition Notebook)
- Safety goggles and lab coat (to be provided by the school)
- Other items you will find useful –
 - Highlighter markers
 - Dry erase markers
 - Tape
 - Scissors
 - Different colored pens (red, blue, black)

1 H Hydrogen		74 W Tungsten	19 K Potassium
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AP Chemistry

Course Overview

This is an advanced placement course designed to prepare you, the student, for the AP Chemistry exam. You may receive AP credit as determined by your score on the AP exam given at 8:00 am on **Friday, May 7, 2021**. The course covers the equivalent of one full year of college level General Chemistry comparable to a first year general chemistry course at a college or university. The course is a rigorous math-based course, with a strong laboratory component. It is intended for students who have demonstrated a willingness to commit considerable time to studying and completing assignments outside of class. It is expected that students in AP Chemistry spend at least five hours a week in individual study **outside of class time**.



The course is designed as a block class that meets for approximately 207 hours per school year...92 minutes every A day and for 46 minutes every B day. Students enrolled in this class will earn 1.5 high school credits on the weighted scale per semester upon successful completion of the material. You may only receive the AP label on the course if you take the AP Exam at the end of the year. The course will follow all of the guidelines of the AP Chemistry Course description as outlined by the AP College Board. Since passing the AP Exam *may* qualify the student to by-pass a first year general chemistry course, this course should be thought of as a college course. There will be college-level expectations for behavior, participation, and effort.

Unit Outline and Themes

AP Exam Weighting

Unit 1: Atomic Structure and Properties	7-9%
Unit 2: Molecular and Ionic Compound Structure and Properties	7-9%
Unit 3: Intermolecular Forces and Properties	18-22%
Unit 4: Chemical Reactions	7-9%
Unit 5: Kinetics	7-9%
Unit 6: Thermodynamics	7-9%
Unit 7: Equilibrium	7-9%
Unit 8: Acids and Bases	11-15%
Unit 9: Applications of Thermodynamics	7-9%

Prerequisites: Honors Chemistry/Chemistry and Algebra II

Texts

Brown, Theodore L. and LeMay, H. Eugene Jr., Chemistry: The Central Science, 11th ed., 2009, Pearson Education, Inc. Upper Saddle River, N.J.

* Students should obtain a copy of this text from the media center

AP Chemistry Guided-Inquiry Experiments, 1st Ed., 2013, The College Board, New York, NY

Class Grading Policy

Grading Practices:

Each unit will be graded using a performance scale. Students will be required to show minimum learning on *each* standard in order to pass and receive credit for the course.

AP Chemistry performance scale			
Level	Score		AP Equivalent
<i>Adv</i>	100	<i>In addition to score 3.0 performance, the student demonstrates in-depth inferences and applications that go beyond what was taught and connects current concepts with past concepts.</i>	5
	94	In addition to score 3.0 performance, partial success at score 4.0 content.	4
<i>Mtg</i>	88	<i>In addition to score 2.0 performance, the student can synthesize the current material to demonstrate comprehension beyond a basic understanding.</i>	4
	82	No major errors or omissions regarding score 2.0 content, and partial success at score 3.0 content	3
<i>Prg</i>	75	<i>The student shows an understanding of the basic concepts taught during this unit (list of skills will be included each unit as "I can..." statements).</i>	3
	70	With help, no major errors or omissions regarding score 2.0 content or score 3.0 content.	2
<i>Beg</i>	65	Partial success at score 2.0 content but major errors or omissions at score 3.0 content. With help, partial success at both score 2.0 content and 3.0 content	1
	60	With help, partial success at score 2.0 content but not at score 3.0 content.	1
<i>Ins</i>	50	No success, even with help.	

- ✓ The skills for each unit will be communicated at the beginning of learning, and will be assessed multiple times, with the most recent evidence counting as the grade. **The goal is to assure learning is maintained or improves throughout the course.**
- ✓ **Formative Assessment:** Formal and informal processes teachers and students use to gather evidence for the purpose of improving learning.
- ✓ **Summative Assessment:** Assessments that provide evidence of student achievement for the purpose of making a judgment about student competence or program effectiveness.

Academic Integrity

All students are expected to commit to high standards of personal and academic integrity. Students are expected to do their own work and document sources appropriately.

18-Week and Semester Grading Scale:

Once minimum learning is met for each standard, then scores in each standard will be averaged together to determine the 18-week grade using the grading scale below.

Minimum Percent	Letter Grade
92.5	A
89.5	A-
86.5	B+
82.5	B
79.5	B-
76.5	C+
72.5	C
69.5	C-
66.5	D+

62.5	D
59.5	D-
< 59.5	F

- ✓ A 0-100 percent scale will be utilized to determine *final* course grades.
- ✓ Letter grades will be assigned for all courses at the secondary level based on the 0-100 percent scale.
- ✓ When a rubric is converted to a letter grade, the 0-100 percent scale will be employed.
- ✓ 90% of your semester grade will be based upon the 18-week grade, while 10% of your semester grade will be based upon the Midterm and Semester Exams. (There are no reassessments allowed on the midterm or semester exams.)

Proficiency Scale

Behavioral Expectations:

The work habits/behavior standards are for grades 6-12 courses in our district. These work habits/behavior standards will be reported throughout the semester and are as follows:

- Organization and Readiness
- Productivity and Accountability
- Collaboration Skills

For those of you accessing this document electronically, the work habits tool can be accessed [here](#). We will be using the following performance levels:

MS= Meets Standard

PM = Partially Meets Standard

DM = Doesn't meet standard

NE = No Evidence

- ✓ Descriptors on the Work Habits skills are intended for feedback and communication; they do not impact a student's GPA.

Multiple and Varied Assessment Opportunities (including Retakes):

- You will have multiple assessment opportunities to demonstrate higher levels of achievement. The opportunities may be initiated by your instructor or you, but always at the instructor's discretion. Additional opportunities may include retakes of an alternate form of an assessment (e.g., Form B instead of Form A), revisions of work products based on descriptive feedback, or alternative methods of assessments (e.g., an oral response rather than a written test).
- Each skill will be assessed multiple times. Your grade for each skill will be determined using the most recent evidence.

Extra Credit and Bonus Points

To ensure that grades reflect progress toward and achievement of the standards, giving extra credit points or bonus points will not occur in this class.

Independent Practice:

- ✓ Independent practice is an opportunity for you to practice skills, apply knowledge, review and build on past learning, and extend learning.
- ✓ Practice is a way for you to receive feedback (from your teacher or by checking your own work with an answer key) and correct errors in thinking.
- ✓ Homework may be individualized and based on your progress towards established standards.
- ✓ The purpose of the assignment will determine whether or not it will be used as evidence toward the standard.

- ✓ Through independent learning tasks (homework), you will assume more responsibility for your learning through opportunities to apply what you have learned to new situations or experiences.
- ✓ Meeting Independent Practice deadlines is one way your **Organization and Readiness** will be measured.

Class Work:

- ✓ It is an expectation that you will participate and complete all activities in class.
- ✓ If you miss a lab you will be responsible for scheduling a time to complete the missing lab in a timely fashion.
- ✓ If you **miss class**, you will be responsible for the learning you missed.
 - i. First, check the calendar on Google Classroom.
 - ii. Second, check the folder in the front of the classroom for any papers and handouts.
 - iii. Lastly, talk to your instructor to determine a timeline for completing work.
- ✓ Participating and being engaged in class work is one way your **Accountability and Productivity** will be measured.

Scientific Practices (Lab Component)

We will do 8-12 labs per semester. These must act as college labs, which are 2-3 hours in length. Lab reports will be written for each lab and students will be given feedback on their writing proficiency. Material from the labs will be assessed through quizzes, which are calculated as part of the Science Practices score in the 18-week grade.

- **You will need to purchase a lab notebook in which to record all data and observations from a lab. Be sure to keep copies of your lab notebook.** Many colleges will ask to see proof of the labs that you have done in order to give full AP credit.
- **Pre-lab questions must be completed prior to coming to class** in your lab notebook.
- A safety contract must be signed at the beginning of the year before students can go into lab. Goggles must be worn for all labs. Lab coats are available for your use to protect clothing.
- If you miss a lab, you have one week to make that lab up.
- Open lab and lab make-ups will be held before or after school if scheduled with your instructor. Seminar may also be used for lab completion.

Skills Measured for Science Practices

Experimental Design Skills:

- I can define variables and identify constants in a scientific experiment.
- I can engage in scientific questioning to extend thinking or to guide investigations.
- I can plan and implement data collection strategies in relation to a particular scientific question. (Note: Data can be collected from many different sources, e.g., investigations, scientific observations, the findings of others, historic reconstruction and/or archived data.)

Data Analysis and Communication Skills:

- I can use representations and models to communicate scientific phenomena and solve scientific problems.
- I can perform data analysis and evaluation of evidence using graphical and mathematical representations.

Homework

You will be given a homework assignment of some sort most days. These assignments could be watching a video and taking notes, reading from your textbook, preparing for a lab, or working on problems to support fluency. These assignments are not calculated into your grade, but are very important for your understanding of the material. **Problem sets** will be assigned periodically throughout units. These will be collected for the purpose of providing feedback to students. In order to retake an assessment over that material, these problem sets must be turned in by the deadline.

Midterm Exam and Semester Exam (10% of grade each semester)

50-60 Multiple Choice Items

Classroom Rules / Guidelines

- Do not bring food or drink into lab. **This is a working chemistry laboratory.**
- If you are absent, it is your responsibility to see me about make-up work or what you missed. Check Google Classroom for missed assignments. Please do this before class or at the end of the class period.
- Study the text before we discuss the sections in class (this is outlined in the syllabus for each unit).
- Do the assigned homework problems outlined in your unit syllabus before a quiz or the exam, and turn them in for feedback by the assigned date.
- Complete all laboratory work, including making up the labs you are absent for.