

Course Information and Polices

Advanced Placement Chemistry 2009–2010

Instructor
Email

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Class Location
Help Hours

Science Building Room 3
By appointments

Course Objectives

Welcome to AP Chemistry! Advanced Placement (AP) Chemistry is a double period college level course providing a comparable body of information typically covered in first year chemistry. Building upon the Honors Chemistry, the marquee topics on advanced stoichiometry, chemical equilibria, thermochemistry, electrochemistry, chemical kinetics and introductory organic chemistry, are addressed this course. In addition to the theory, laboratory experience is embedded frequently into the course with an emphasis on nurturing the students' ability in performing open-end and multi-step labs. At the end of the year, the class will participate in annual statewide chemistry team championship – the Chemathon, whereas the top students will participate in the National Chemistry Olympiad. At most universities, high scores on the AP Chemistry exam – namely 5s or 4s – may allow a student to claim up to 8 college credits. At a minimum, upon completion of the course, not only will the student be exposed to the rigors of problem solving, but also will be adequately trained in laboratory methods and protocols.

General Views of AP Chemistry: Theory vs. Practice

$$5_{\text{AP Exam}} \xrightleftharpoons[\text{equilibria}]{\text{dynamic}} \left[\frac{\text{listening} \uparrow^4 + \text{practicing} \uparrow^3 + \text{exmperirmenting} \uparrow^2}{\sqrt[0]{\text{time_NOT_spent_on_Chemistry}} \downarrow} \right]^{\text{WillPower}}$$

What is the scope (depth & width) in AP Chemistry Exam?

“Students in an AP Chemistry course should attain a depth of understanding of fundamentals and a reasonable competence in dealing with chemical problems.”

- Source: AP Chemistry Course Description 2009–2010, College Board

“The AP Chemistry Exam must be so comprehensive that no student should be expected a perfect or near-perfect score. Thought-provoking problems and questions based on fundamental ideas are included.”

- Source: AP Chemistry Course Description 2009–2010, College Board

How much time you have to spend on AP Chemistry outside of the classroom?

“It is assumed that the student will spend AT LEAST five hours a week in unsupervised individual study.”

- Source: AP Chemistry Course Description 2009–2010, College Board

It is naturally expected that the student should spend adequate amount of time to conduct systematic review and study outside of the classroom, including weekends, long school holidays and recesses.

- Source: ALL AP chemistry teachers 1956–2009

AP Events

AP students, as a whole class, will participate in various essential events on program, department, school, state, and/or national levels throughout the year. All events are aimed at building up your confidence, knowledge and skills for the eventual success on AP Exam, as well as offering you broader exposure and perspectives in Chemistry. The pertinent works assigned from these events are evaluated and factored into your grade.

It is required that the ENTIRE AP class prepare for the state-wide chemistry competition, Chemathon, which demands regular off-the-class commitments from January to April in 2010. The 26th Chemathon is scheduled on the last Saturday of April at University of Maryland, College Park, on the 24th of April 2010.

Major Events: AP Chemistry 2009–2010

	Event	Scale	Date	Comments
2009	Equation Writing & Balancing Race	Inter-class	Early Oct.	<ul style="list-style-type: none"> Joining Honors Equal to a test
	The MOLE Day Celebration	Program	Oct. 23	<ul style="list-style-type: none"> Poster-gearred to all school Supervising Honors class Equal to half of a project
2010	Chemathon Event Run-through	Program	Early Jan. to late March	<ul style="list-style-type: none"> Chemathon prelude Embedded in labs and tests
	Chemathon Competition	All state	April 24	<ul style="list-style-type: none"> Joining Honors class Joining 30 other schools Embedded in labs and tests
	U.S. National Chemistry Olympiad	National	late-April	<ul style="list-style-type: none"> Joining 30,000+ across the nation Equal to a test
	College Board AP Exam	National	May 11	<ul style="list-style-type: none"> Joining 100,000+ across the nation OR taking an equivalent Final Exam
	Chemistry & Food Project (Post AP Exam)	Program	Late-May	<ul style="list-style-type: none"> Supervising Honors & General classes Preparing them for Biology Equal to one project
	SAT II Chemistry Exam	National	June 5	<ul style="list-style-type: none"> Joining many across the nation Equal to one project

Regular Course Activities and Evaluations: Overview

Certain activities – such as a lab report, a project and a test – might be assigned or occur concurrently though most likely with different due days. You therefore need to meticulously coordinate your schedules to suitably complete these tasks.

Course Evaluation: AP Chemistry 2009–2010

	TYPE	%	FREQUENCY	COMMENTS
1st & 2nd QUARTERS	Quiz	15	2-3 per week	<ul style="list-style-type: none"> 20 -30 minutes: current unit material may drop the lowest 2
	Unit Test	50	8–10 half take-homes	<ul style="list-style-type: none"> 50-90 minutes non-accumulative: from the current unit may drop a lowest per quarter
	Lab Work & Report	35	Weekly	<ul style="list-style-type: none"> lab worksheet lab report
	Homework & Class work	0	Daily & weekly	<ul style="list-style-type: none"> homework assigned by lecturing unit class-work assigned as worksheet/package
3rd & 4th QUARTERS	Quiz	10	2-3 per week	<ul style="list-style-type: none"> 20-30 minutes – current unit material may drop the lowest 2
	Unit & Review Test	60	6	<ul style="list-style-type: none"> 50-180 minutes unit test: non-accumulative review test: accumulative drops – to be determined
	Lab Work & Report	30	Weekly	<ul style="list-style-type: none"> lab worksheet lab report
	Homework & Class work	0	Daily & weekly	<ul style="list-style-type: none"> homework assigned by lecturing unit class-work assigned as worksheet
SEMESTER	Midterm Exam	20	1	<ul style="list-style-type: none"> 4 hours including lab practicals Accumulative Simulating AP Exam & Olympiad
	Field Trip	Lab	1	<ul style="list-style-type: none"> experimentation in a local science center part of the lab grade
YEAR	Conditional Final Exam	20	1	<ul style="list-style-type: none"> ONLY taken if not writing the College Board AP Exam comparable to a real/official AP Exam 3 hour-long accumulative for the entire year

Free Response Question & Test RE-DO

Free Response questions, as opposed to the Multiple Choice questions, require a student to provide crucial steps and reasoning in his/her answers. This type of questions accounts 50% of your total grade on AP Chemistry Exam, and is graded by both clarity and quality of your presentation. A logical, skilled and economic presentation in Free Response questions is a goal you MUST consciously strive to attain in your class-work, homework, quiz and test.

Things Impeding a Good Grade in Free Response:

Any ‘Guerrilla-war’ type presentation – unconventional and under-trained – such as

- Visually messy
- Logically messy: rumbling & incoherent
- Not answering what is asked for and/or using the wrong method
- Too many unnecessary intermediate (particularly in computation) steps
- Too few steps to show the logic connections
- No apparent verbal links between adjacent (particularly in computation) steps
- No final unit(s)
- No acceptable significant figures
- Not following the comments and capitalizing the RE-DO delineated below

Grading-holding & RE-DO in a Test:

The procedure below is designed to train your proficiency in Free Response questions

- Up to 10 points (out of 100) of your grade from a test might be held due to inadequate presentation
- A RE-DO will raise your grade based on the following:

Points Held	Presentation Evaluation	RE-DO	Maximum Points Raised After RE-DO
0	<i>Adequate</i>	<i>NA</i>	0
4	<i>Acceptable</i>	<i>Recommended</i>	4
6	<i>Poor</i>	<i>Recommended</i>	5
10	<i>Unacceptable</i>	<i>Must</i>	8

- RE-DO must be handed in within 2 days after the return of the test with the original test attached
- RE-DO may only address the questions/parts where the points are withheld
- RE-DO should also address the method/accuracy of answers
- Failing to turn in a must RE-DO (points held by 10) will result in an interim

Lab Work and Lab Report Policy & Re-DO

Lab report reflects your skills in analysis, summarization and presentation. A good lab portfolio presented to the college during the admission process might ultimately determine the number of credits waived to you.

Each lab work/report is worth a total of 120 points. Among them, 80 points are allocated for the completion (tackling all the parts and question), whereas 40 points are allotted for quality and presentation. A lab report with poor quality will result in a RE-DO.

Grading-holding & RE-DO in Lab Report:

Points Held	Quality Evaluation	RE-DO	Maximum Points Raised After RE-DO
10	<i>Adequate</i>	<i>NA</i>	<i>NA</i>
20	<i>Acceptable</i>	<i>Recommended</i>	15
30	<i>Poor</i>	<i>Recommended</i>	20
40	<i>Unacceptable</i>	<i>Must</i>	25

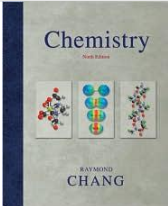
- RE-DO must be handed in within 3 days after the return of the lab report with the original one
- RE-DO may only address the parts/questions where the points are withheld
- Failing 2 must RE-DOs will result in an interim

Things Impeding a Good Lab Report:

- Not turning it in on time
- Any ‘Guerrilla-war’ type presentation – unconventional and under-trained – such as
 - ❖ Visually messy
 - ❖ Logically messy: rumbly and incoherent
 - ❖ No background information and lack of hypothesis in *Introduction*
 - ❖ Not using step-wise method for the *Material & Method*
 - ❖ No analyzed results on data in *Result*
 - ❖ Poorly constructed table or graphs in *Result*
 - ❖ Not discussing chemical mechanisms in *Discussion*
 - ❖ No error analysis in *Discussion*
 - ❖ Not giving pertinent improvement suggestions in *Discussion*
 - ❖ No appropriate units
 - ❖ No appropriate significant figures
 - ❖ Not using appropriate and discipline-relevant wording
 - ❖ Not following the comments and capitalizing the re-do chance

Personal Supplies for Lectures & Labs

Daily Needs for AP Chemistry

What?	For...
A constantly inquisitive mind Textbook <i>Chemistry</i> by Raymond Chang 9 th Edition 	<input checked="" type="checkbox"/> everything in this challenging course <input checked="" type="checkbox"/> daily reading <input checked="" type="checkbox"/> homework & reference <input checked="" type="checkbox"/> in class reference <input checked="" type="checkbox"/> nightly pillow reading
Laboratory manual	<input checked="" type="checkbox"/> daily usage <input checked="" type="checkbox"/> lab activities & exercises <input checked="" type="checkbox"/> references
A Three-ring binder <i>Set it side only for AP Chemistry with each section clearly marked and ordered</i>	<input checked="" type="checkbox"/> lectures guides, packages and other handouts <input checked="" type="checkbox"/> homework & lab reports <input checked="" type="checkbox"/> tests & quizzes <input checked="" type="checkbox"/> all AP formulas /constants /equations
Practice booklet	<input checked="" type="checkbox"/> about 200 pages/quarter with lines <input checked="" type="checkbox"/> conducting daily in-class and home practice
A deck of index cards	<input checked="" type="checkbox"/> making flash-cards on vital equations, reactions and concepts
Lab report binder	<input checked="" type="checkbox"/> ultimate container for all lab reports and stored in the Chemistry room
An good AP review guide	<input checked="" type="checkbox"/> Princeton Reviews – Cracking the AP Chemistry Exam <i>or</i> <input checked="" type="checkbox"/> Barron's AP Chemistry
A handful highlighters	<input checked="" type="checkbox"/> class activities <input checked="" type="checkbox"/> daily reading
A calculator/ TI-83 or greater	<input checked="" type="checkbox"/> frequent problem-solving

Grading Policies

AP Chemistry Grade Determination (by QAS)

Accumulative % Grade	Corresponding Letter Grade
Above 92	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
Below 60	F

Occasions Affecting Grades & Actions to Take

Occasions	Effects on Grade	Remedies & Recommendations
Inexcusable late work	<ul style="list-style-type: none"> • Lab work: 100% off after its due • Lab report: one third off each day after its due • Redo work: 100% off after its due 	<ul style="list-style-type: none"> • turning in your work and RE-DO on time
Tardiness	Huge – missing the most critical course daily announcement and keynotes of the lecture	<ul style="list-style-type: none"> • be on time • consult QAS Handbook • lunch detention
Excusable late work – short absence	None if complying with Remedy & Recommendation	<ul style="list-style-type: none"> • must see the instructor on the 1st day of return • may turn in the work late as many days as the absence • must start making-up missed labs on the 1st day of return
Excusable late work – long absence	In theory, none if complying with the Remedy & Recommendation. <i>AVOID LONG ABSENCE – Or you won't be able to catch-up!</i>	<ul style="list-style-type: none"> • must see the instructor on the 1st day of return to workout a Timeline • may turn in the missed work following the approved Timeline by the instructor
Classroom misconduct	May result in expulsion and bring cascading drops of the grade	<ul style="list-style-type: none"> • behavioral modification/improvement • detention & expulsion

College Board AP Chemistry Exam Format

Breakdowns

<u>Section</u>	<u>%</u>	<u>Time</u>		
<u>Multiple Choices</u>	50%	90 Minutes	<input checked="" type="checkbox"/> # of Questions	75
			<input checked="" type="checkbox"/> # Choices per Question	5
			<input checked="" type="checkbox"/> Calculator Usage	NOT ALLOWED – hand simple computing!
			<input checked="" type="checkbox"/> Reference Provided	The Periodic Table
<u>Free Response</u>	50%	95 Minutes	PART A : Computational Style	
			55 minutes Calculator Allowed INLY in This Part	
			<input checked="" type="checkbox"/> Question 1	20% Equilibrium
			<input checked="" type="checkbox"/> Questions 2 & 3	40% from the combo of following 4 topics
			❖	Stiochiometry (gas, solution and/or solid)
			❖	Electrochemistry,
			❖	Theromochemistry
			❖	Chemical Kinetics
			PART B: Essay Style	
			40 minutes	
			Calculator NOT Allowed	
			<input checked="" type="checkbox"/> Question 4	10% Writing net ionic equations with a 2dary interpretation
			<input checked="" type="checkbox"/> Question 5	15% Lab relevant questions
			<input checked="" type="checkbox"/> Question 6	15% AP concept applications
<u>References</u>				
<input checked="" type="checkbox"/> The Periodic Table				
<input checked="" type="checkbox"/> Standard Reduction Potential (SRP) Table				
<input checked="" type="checkbox"/> AP Equation, Formula and Constant Charts				