

AP Chemistry Syllabus

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Rm M10

Overview

The aim of this AP Chemistry class is to help the students to develop the skill of thinking analytically, critically and independently utilizing the College Board's description of the AP Chemistry course. During the course I will use various teaching techniques (lecture, modeling, demonstration, pre- reading, discussions, and practice problems) to accommodate students with different learning styles. Students will be given "what if" situations to foster thinking and as a check for mastery.

Course Design

The class periods are on a block schedule and the AP chemistry class meets 2-3 days per week for 1 ½ hrs. Students will be expected to attend extra class sessions outside of the regular class time to help with understanding and mastery of the concepts and techniques and to complete assignments.

This course is designed to provide the students with concepts and skills required by a first year college chemistry course in the classroom and in the laboratory. Students will work in groups of 2 or 3 and in some instances individually for each lab conducted. The lab will supplement the class concepts by providing visual and practical applications of the related concepts. Approximately 25% of the time will be spent in the lab collecting and analyzing data. The labs will be student guided inquiry and the students will be expected use equipment and various technology (graphical calculators and probes) to collect data, make relevant observations and verify hypotheses. All procedures and data will be written in a laboratory notebook. Students will have to complete and submit pre-lab questions before the labs, discuss the results informally within their groups and submit a formal written report two class periods after the lab.

Some laboratory exercises will be conducted outside of the normal class time to ensure that all the required concepts are covered in the given number of class periods.

Why did you take AP Chemistry?

- To get a boosted grade or grade point average

- To have a more attractive college admissions folder
- The material is fascinating
- Laboratory work appeals to you
- Obtain college credit

College Board Expectations:

- Classes should meet for at least six class periods (290 minutes) per week. (we meet on average 225 mins/ week within a two week period)
- 25 % of instructional time should be spent on inquiry-based laboratory investigations
- Students should spend at least five (5) hours per week outside class working on chemistry

How to be successful?

- You must be able to effectively communicate your knowledge
- Work on your writing skills in English and other classes
- You must have a good command of mathematical calculations
- You need to think in a logical organized fashion

AP Chemistry is comprised of six big ideas:

- **Big idea 1:** The chemical elements are fundamental building materials of matter, and all matter can be understood in terms of arrangements of atoms. These atoms retain their identity in chemical reactions.
- **Big idea 2:** Chemical and physical properties of materials can be explained by the structure and the arrangement of atoms, ions, or molecules and the forces between them.
- **Big Idea 3:** Changes in matter involve the arrangement and/or reorganization of atoms and/or the transfer of electrons.
- **Big Idea 4:** Rates of chemical reactions are determined by the details of the molecular collisions
- **Big Idea 5:** The laws of thermodynamics describe the essential role of energy and explain and predict the direction of changes in matter
- **Big Idea 6:** Any bond or intermolecular attraction that can be formed can be broken. These two processes are in dynamic competition, sensitive to initial conditions and external perturbations.

Textbooks

Zumdahl, Steven, S., and Susan A., Chemistry AP Edition, Ninth Edition, Cengage, 2013

Materials

- 1 1-inch binder for notes
- Carbon copy lab notebook – available for purchase from instructor
- Black/blue pen
- #2 pencil
- 30 cm/12 inch ruler
- A scientific calculator will be provided in class only. **Students are encouraged to purchase a TI 83+ or a TI 84 for use at home and in future classes.**

Assessment

I. Homework:

Will count for 10% but it is expected that students complete the homework daily. Students will be provided with solutions to all the problems and I will be available to answer questions students may have regarding the problems.

II. Quizzes:

This will account for 25% of the final grade. Quizzes will mimic the homework and will be administered periodically during each unit and will cover the concepts taught up to that point. Some of the quiz problems will be copied directly from the homework and others will be the same with different numbers used. You will be given electronic online homework from the UT Homework system which will also count as quiz grades with known due dates given to you well in advance.

III. Tests:

This will account for 40% of the final grade.

AP Test Format

- Multiple-choice questions (50%)
 - 60 questions
 - Four choices
 - No extra point deduction for wrong answer
- Free-response questions
 - Seven questions
 - Long question (parts a-d or a-e) and short questions (parts a-b)
 - Five types of questions
 - Lab I – demonstrate your ability to plan and write a laboratory procedure based on their knowledge of chemical principles

- Lab II – use data to draw conclusions a
- Representation I – discuss how a model of particles behave on the microscopic or particulate level and explain macroscopic observations
- Representation II – Similar to representation I questions, but you will need to use diagrams along with explanations in the answer
- Quantitative – follow logical, analytical pathways to solve problems

Questions will consist of multi-step problems which vary in difficulty and include cross topic content within the AP Chemistry content.

You will not be able to use a calculator for the multiple choice section and need to be familiar with rounding the measurements to one significant figure.

In class tests and quizzes will mimic this and the semester exam will be a “mock” AP Chemistry exam.

IV. Laboratory Notebook/ Lab Reports

This will account for 25% of the final grade. Students will have pre-labs questions to answer and submit prior to the lab along with the introduction. Sharing and compilation of group/class data will be done as the lab progresses. Post lab discussion will occur and the end of the lab or next class period. Formal lab reports will be required for most labs using the following format:

- a. Title
- b. Introduction
- c. Hypothesis
- d. Procedure
- e. Results/Data
- f. Questions
- g. Conclusions

Late Work: Late work will be accepted **only** if completed before the next class period **for 70% of the earned grade only**. If the late work is completed **in tutorial** within 1 class period of the due date, the student may receive up to 85% of the earned grade.

Absence Policy: You have as many days as you missed to turn in your missed work. Ex. If you miss two class periods, you have two class periods to complete all of your work. This pertains only to excused absences.

Absences/Missed Work: It is your responsibility to keep up with worked missed due to any absence. Tests, labs and quizzes must be made up in tutoring within the required time (see absence policy). Students in ISS must make up labs during tutoring. Missed work can be obtained from my website (www.malininfo.weebly.com). If you will miss class due to a school activity, the assignments due

during that period will have to be completed & submitted before the due date or before the next class period.

I will update the online grade book (power teacher) weekly. Parents and/ or students have access to grades via parent connect.

Tutoring: TBD

Afternoons

Mornings

I will be available for some Saturday tutorials. You will be given advanced notice of my availability.

I can make special arrangements if these times are not suitable to the student. Students should be aware that there may be scheduling conflicts and should not wait until the last minute to come for help. If you make arrangements with me ahead of time, I will be likely to be in my room. I may not be in the room if there are no students after 15 minutes of a scheduled time so let me know if you are coming. If I am unable to be in tutorial for illness or meeting at the last minute, I will post it on the door.

Discipline: Minor offenses in class will result in a teacher detention. All teacher detentions will be served in Ms. Malin's classroom on the date that has been determined by Ms. Malin. Skipping a classroom detention will result in an office referral. Major offenses will result in an immediate office referral.

Please note: Tardies and dress code will be strictly enforced, so every student needs to be in class on time and in dress code.

Bathroom/ Hall passes: You will be given 3 bathroom passes per six weeks. Passes cannot be used during lecture, tests, quizzes and labs. Once you have used all three passes you will not be allowed to leave the room. Passes cannot be substituted for tardies. You **must** be wearing your student ID and be in dress code to use a pass.

Classroom Order:

- Classroom dismissal is always at my discretion. The bell is only a guideline. Please remain seated until you are dismissed.
- No trash should be left on the floor. Take pride in YOUR school.
- Food, drinks, candy, gum, and anything edible are not allowed in the classroom or laboratory. Violations will result in detention.
- No cell phones allowed under any circumstances!

Expectations:

- Be on time
- Follow all classroom procedures
- Speak one at a time
- Show respect for everyone in the class
- Clean work area before leaving classroom
- No food, drinks, or gum allowed in the classroom
- No cell phones

Consequences:

1. Warning & Student Conference
 2. Parent contact & 30 minute detention
 3. Office Referral (includes skipping detention)
- *Dress code violations and tardies will be dealt with according to the MISD policy.

- **Do not cheat!!** This will result in an immediate phone call to a parent and a zero for the assignment. This will also apply to the person allowing the cheating.

Procedures:

1. Assignments are due in the homework box within 1 minute of the bell. Work not submitted at that time will be late.
2. Collect bell ringer and begin working on it (5-7 minutes in duration)
3. Get your supplies out
4. Classroom door will be locked after the tardy bell
5. If you are tardy knock on the door and sign the tardy log
6. Follow instructions given for activities
7. Clean work area before leaving class
8. You will be dismissed by me not the bell.

Website: A website (www.malininfo.weebly.com) has been created for my classes. Class schedules, worksheets, projects, homework etc. can be found on the website. This will be useful for if you miss a class or for reviewing.

*If you do not have internet access at home, the school computer lab and library are open every day before and after school. The hours are posted on the doors of each location.

Other communication: You will also sign up for reminder text messages using remind101. An Edmodo page has been set up for your class and you will be given instructions for access.

I have high expectations for all my students, but you must be willing to work hard to get the desired results. **Grades are earned not awarded.** If you are having problems in class you should come to tutoring. Do not wait until the day before a test or a quiz. If you can't make my tutoring I can refer you to another Chemistry teacher. Feel free to email me at any time. I will do my best to respond within a timely manner.

This syllabus is to be kept at home for reference, the information will be posted and referenced in class