

CHEMISTRY 110 - DR. DAVID NEWMAN

GENERAL CHEMISTRY Spring 2015

REQUIRED TEXTS

lecture- Chang and Goldsby, "Chemistry", 11th edition, McGraw-Hill, New York, 2013. (The 10th Edition of Chang can be used as well) You may use new or used books. You may use the electronic version. The bookstore has a paperback version that only covers CHEM 110. The hardcover version will cover CHEM 110 and 120. We cover chapters 1-11

laboratory- Chemistry 110 Lab, Brooks/Cole Laboratory Series

COURSE DESCRIPTION

Introduces the atom and its largest subatomic particles. Describes and quantifies, where possible, how these particles and the nature of the atom are involved in chemical reactions, physical state, chemical energy, and bonding models. Algebra is used extensively to solve problems involving quantities. Examines chemical theory in the context of familiar phenomena. Theories are tested and evaluated in the laboratory. One-hour of lecture time may be reserved for small group activities and analysis. This course is designed for science, mathematics, and related majors. (CSU, UC, AVC)

COURSE OBJECTIVES

Upon completion of course, the successful student will be able to:

Define and demonstrate an understanding of chemistry-specific terms.

Describe atomic theory, atomic structure, and properties of elements.

Use the Periodic Table.

Employ rules for naming chemical compounds and reporting measurements.

Relate atomic structure to chemical bonding, chemical reactions, and physical state.

Predict the identity and quantity of species involved in a chemical reaction.

Calculate the energy released or absorbed in a chemical reaction or change of state.

Compare and contrast chemical bonding models.

Utilize basic laboratory equipment to obtain accurate data.

Analyze and interpret results obtained in the laboratory.

Express findings in scientific reports.

Recognize the role of chemistry in natural phenomena and technological advances.

Student Learning Outcomes

SLO 1. Analyze and evaluate data collected via safe laboratory techniques.

SLO 2. Assess atomic structure, physical properties and chemical properties of elements based on their relative position in the Periodic Table.

SLO 3. Evaluate chemical bonding models to predict molecular properties, molecular structures, and physical state.

SLO 4- Construct balanced chemical equations given the chemical names or formulas of the reactants and/or products.

SLO 5- Calculate the energy released or absorbed in a chemical reaction or change of state.

SLO 6- Solve problems using conversion factors, stoichiometry and the metric system to provide correct answers with appropriate significant figures.

You will treat all members of the class with respect. Your actions will conform to the standards of this syllabus and the AVC catalog.

OPTIONAL MATERIALS

"Flash Cards - very helpful for some people. They can be purchased, or better yet, make your own.

Old Tests - for review. Go to "MyAVC.edu", then click the "My Courses" tab. Select "General Chemistry" and then click on "files".

GRADING

Grades will be based on the percentage of points you earn.

82 - 100%	A
70 - 81.99%	B
58 - 69.99%	C
48 - 57.99%	D
0 - 47.99%	F

POINTS

Final	300
Tests (4 X 250)	1000
Quizzes (3 X 50)	150
Homework (6 X 15)	90
SAS	30
Laboratory	590
Total	2160
(subject to change)	

HOMEWORK

To understand the subject, you will need to apply the concepts to homework problems. Weekly homework will be assigned. Paper homework will be due at the start of the first lecture class of the week. There is no grace period for the

homework. If you are unable to attend class you may email a copy before the deadline.

It is possible to use the 10th Edition of Chang in this course. You will have to get the homework questions for the 10th Edition.

We may use online homework.

110SA

The 110SA is a required portion of this class. You must attend SA.

TESTS

The tests and final make up most of your grade. The quizzes are intended to prepare you for these tests. The average on these exams is expected to be near 60 percent. The tests will cover the material presented since the previous test. The final will be comprehensive. If you miss one test, a calculated score may be given, if a written explanation is submitted. Without a written explanation, you may receive a score of zero. If you miss a second test, a more difficult make - up test may be given. (Excessive absences may cause you to be dropped from the class.) To pass the class, you must take the final.

REASONABLE ACCOMMODATION

If you have a legally protected disability under the Americans with Disabilities Act (ADA) or California discrimination law, and you believe you need reasonable accommodation to participate fully in this class, please make an appointment to see me during my private office hours to discuss your need.

CHEATING

Any assignment found to have been produced dishonestly will receive a zero. You will then be turned over to the AVC administration for additional punishment. It will not be possible to make up this work. Repeated cheating will result in further disciplinary action. All dishonest acts will be dealt with as severely as possible! Never falsify data.

OFFICE HOURS

HS 236 dnewman@avc.edu

M 7:30 - 9:30 am
T 11:00 am – 1:30 pm
W 9:00 – 9:30 am

SCHEDULE

F to M	Feb. 13 to 16	Holiday
Th or F	Feb. 19/20	Quiz 1 (in SA)
W	Mar. 4	Test 1
Th or F	Mar. 19/20	Quiz 2 (in SA)
W	Apr. 1	Test 2

Th or F	Apr. 23/24	Quiz 3 (in SA)	
M	May 4	Test 3	
M	May 25	Holiday	
W	May 27	Test 4 (in SA)	
W	June 3	Final	Subject to change

HONORS OPTIONS



HONORS OPTION:

There is an Honors Option available for this class. If you are a part of the Honors Program and are interested in completing the Honors Option, email me or talk to me after class. We need to complete an Honors Contract and submit it in a timely fashion.

Honors contracts are possible in this class and other chemistry classes.

The minimum requirements for this project are as follows.

1. The project must be a laboratory project (includes computational lab), developed by student and approved by instructor. The student will submit a timeline for the project, to be approved by the instructor. The project will include research into the needed background and procedures.
2. Significant laboratory work will be performed by the student under the direct supervision of the instructor. Research notes and experimental observations are to be kept in a composition book.
3. The student will then provide a 3 page report and/or a verbal presentation. An electronic copy of the report is due before the final. A paper copy of the report must be handed to me at the start of the final.

Each class of 48 students can have a maximum of 4 individuals doing a project. For a class of 24, the maximum is 2. Students will be ranked on the lists based on when they make their first written request. The earliest you can make such a request is after the end of the first lecture. A wait list will be created.

To be eligible for an honors project you must get an A on the first quiz and on the first test.