

Cedar Crest College

Chemical Principles

Chem 111
Fall 2008

Lecture: Mon. and Wed. 5:30 – 6:45 P.M. SC 136

Instructor: David Raker

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Office Hours: Mon. 7:00 – 8:00 P.M. P.M.

Tues. 3:00 – 4:00 P.M.

Wed. 3:30 – 4:30 P.M.

Thurs. 4:30 – 5:30 P.M.

Required Materials:

“Chemistry: The Central Science”, by Theodore L. Brown, H. Eugene LeMay, Jr., Bruce E. Bursten, and Catherine J. Murphey, 11th ed., 2009

READ ASSIGNED CHAPTER BEFORE COMING TO CLASS!

Scientific calculator (*NO* palm pilots or cell phones are to be used as calculators)

Note: You CANNOT use a programmable/graphing calculator on any quiz or exam. I will provide a limited number of non-programmable calculators. These must be signed out and signed in at the end of the period.

Laptop computers should not be used during lecture. Use of these computers distracts the other students from listening to lecture. Laptops cannot be used during exams/quizzes.

You are expected to be in class on time. If you are late, please respect those who arrived on time by entering and sitting down quietly. If a student behaves inappropriately, I will ask the student to leave the classroom.

Turn off all cell phones and pagers while in class.

If you are caught text messaging during class, the first violation will be a verbal warning to stop and to not do it again. The second violation will result in dismissal from class that day and a 5-point deduction on the next exam. Text messaging during a class is rude and disrespectful.

Grading percentages for lecture:

Your final grade consists of:

- a.) 2 exams- 100 points each
3 quizzes- 33 points each (the quizzes add up to a 3rd exam grade)
[45% of your lecture grade]
- b.) 1 comprehensive final exam- 200 points [35% of your lecture grade]

- c.) Collected homework- 0-5 points [15 % of your lecture grade]

A completed homework assignment is considered one consisting of worked out solutions to assigned problems. Some class time (10 – 15 min. at the beginning of class if time permits) will also be allotted for going over homework problems *after the students have turned in the assignment on the due date*.

Note: Homework assignments turned in a school day late, without a valid written excuse, will result in the deduction of 2 points from the total points of the assignment. Any homework turned in after that will result in a grade of “zero”. Your **lowest** homework grade will be dropped!

- d.) Recitation attendance [0-5%]

Your *lecture* average is calculated by:

$$0.45(\text{exams}) + 0.35(\text{final exam}) + 0.15(\text{homework}) + 0 - 5\%(\text{recitation attendance})$$

Attendance

I take attendance during each lecture. A sign-in sheet is passed around. If you miss more than 4 classes, a “Report of Concern” will be sent to Academic Services and your advisor. If you stop attending class, be sure to officially withdraw from the class **and** notify me. Otherwise, I can only give you an F for the final grade.

Examination and Quiz Attendance

If a student has some other important responsibility that prevents attendance on a testing day, I must be notified in advance. Arrangements for an alternate testing time will then be made. If an exam or quiz is missed without advance notice, a valid written excuse is required from a doctor, school nurse (in the case of illness), dentist, or the Dean of Students’ Office (in the case of family emergencies) in order for a make-up to be given. If these procedures are not followed, no make-up will be given and the student will receive a zero. If the make-up is not made up within three school days **from the date the exam or quiz was originally given to the class**, a grade of “zero” will be assigned to that student.

Note: The make-up exam or quiz, no matter the excuse, will be more difficult and different than the original. If a curve is assigned to the original exam, it will NOT be assigned to the make-up exam.

Policy on returned exams/quizzes

If there is a concern about a returned exam/quiz, a specific procedure is used:

- 1.) Write your concern on the back of the exam/quiz.
- 2.) Give the exam/quiz to the instructor within 2 or 3 days of the return date.

The **ENTIRE** exam/quiz will be re-graded (at the instructor's convenience), with the possibility of the revised grade being lower than the original. Never change answers on an exam/quiz. Random copies of exams/quizzes are made before they are returned.

You are expected to have proper English grammar, sentences and spelling on **ALL** work turned in or points will be deducted.

Recitation Session Attendance

Attendance at the student's scheduled recitation session is required. The student will be allowed ONE unexcused absence during the term. For each unexcused absence from the scheduled recitation sessions, 1% will be deducted from the lecture grade, up to the maximum of 5%. In addition, EVERY student is welcome to attend ANY recitation session that best fits the student's schedule.

Grading system and cut-offs

This is a 3-credit course including lecture and recitation. The laboratory portion of the course must be taken concurrently, unless the student has already earned credit for the CHE 111 laboratory with a grade of C- or higher. The student will receive a separate syllabus for the laboratory portion of the course.

The following grading system is strictly adhered to and only very rarely is an exception made. There is **no** extra credit.

A (100-95%)	B- (83-80%)	D+ (69-65%)
A- (94-90%)	C+ (79-77%)	D (64-60%)
B+ (89-87%)	C (76-73%)	F (59-0%)
B (86-84%)	C- (72-70%)	

Requirement for Enrolling in Chemistry 112

It is a departmental policy that in order to enroll in Chemistry 112, a student must earn at least a C- in Chemistry 111. To be accepted into the Forensic Science Concentration, a student must earn at least a C in Chemistry 111.

Instructional Assistance

Besides acquiring personal assistance from me, a student may also seek assistance from the instructor's assistant for lecture or lab. They will hold several informal help sessions each week during the term. Attendance to these sessions is NOT mandatory. The times for these sessions will be posted once the schedules are finalized.

The Instructional Assistants for this course are:

Kassie Woodard, Andrea Eberhardt, Christina Matika, and Jennifer Bonetti.

The IA's will hold several informal help sessions each week during the term. Attendance at these help sessions is voluntary. The times during which these help sessions will be held is to be established after consultation with the students' class schedules.

The Cedar Crest College Advising Center provides individual tutoring by upper level science students or by Mr. Gary Moll. If you feel a tutor is necessary for your successful completion of this course, contact the instructor, your academic advisor, or the Advising Center.

Students with Learning Disabilities

Students with documented disabilities who may need academic accommodations should discuss these needs with the professor during the first two weeks of class. Students with disabilities who wish to request accommodations should contact the Advising Center.

Community Standards for Academic Conduct

Academic integrity and ethics remain steadfast, withstanding technological change. Cedar Crest College academic standards therefore apply to all academic work, including, but not limited to, handwritten or computer-generated documents, video or audio recordings, and telecommunications.

As a student at Cedar Crest College, each student shall:

- Only submit work which is his/her own.
- Adhere to the rules of acknowledging outside sources, as defined by the instructor, never plagiarizing or misrepresenting intellectual property.
- Neither seek nor receive aid from another student, converse with one another when inappropriate, nor use materials not authorized by the instructor.
- Follow the instructions of the professor in any academic situation or environment, including taking of examinations, laboratory procedures, the preparation of papers, properly and respectfully using College facilities and resources, including library and computing resources to ensure that these resources may be effectively shared by all members of the College community.
- Abide by the Cedar Crest Computer Use Policy.
- If a student perceives a violation of the Academic Standards, he/she will go to their instructor.
- If you are unable to resolve the problem with the instructor, you should go to the chair of the department. If you need further assistance after consultation with the instructor and the chair, you should see the Provost.

Classroom Protocol

Appropriate classroom behavior is defined and guided by complete protection for the rights of all students and faculty to a courteous, respectful classroom environment. That environment is free from distractions such as late arrivals, early departures, inappropriate conversations and any other behaviors that might disrupt instruction and/or compromise students' access to the Cedar Crest College education.

Honor Philosophy/Code

The Cedar Crest College Honor Philosophy states that students should uphold community standards for academic and social behavior in order to preserve a learning environment dedicated to personal and academic excellence. Upholding community standards is a

matter of personal integrity and honor. Individuals who accept the honor or membership in the Cedar Crest College community of scholars pledge to accept responsibility for their actions in all academic and social situations and for the effect their actions may have on other members of the College community. For more information, please see the “Customs Book”.

Course Objectives

- 1.) To discuss topics fundamental to modern chemistry including principles and methods in theoretical and descriptive chemistry.
- 2.) To recognize the importance of chemical principles for the description of matter in the environment.
- 3.) To study stoichiometry, periodic properties of elements, atomic structure, chemical bonding, gases, and solution chemistry.
- 4.) To develop good laboratory technique while demonstrating basic chemical principles, qualitative analysis, and simple quantitative analysis.
- 5.) To introduce the basic elements of the statistical approach to experimental data evaluation.

Course Outcomes

- 1.) The students will demonstrate critical thinking and quantitative reasoning skills related to theoretical chemistry and the description of matter in the environment around us.
- 2.) The students will demonstrate competence in making detailed observations in the laboratory and in the collection and evaluation of experimental data.
- 3.) The students will acquire fundamental scientific knowledge and skills required in more advanced chemistry and biology courses.

If you have questions either during or outside of class, **please ask them**. I cannot always tell how well you understand the material until the exam. By then it is too late! There are **NO** stupid questions! Good scientists ask questions in order to understand the universe we live in. I want all of you to enjoy chemistry and the only way to do so is to understand the concepts. I have seen students smile or say “Oh!” after they understood some concept that a few seconds before seemed foreign. This, I feel is the ultimate “high”!

Tentative Syllabus

<u>Week of</u>	<u>Lecture Topic</u>
Aug. 25	Introduction to course <u>Chap 1</u> : Matter and Measurement
Sept. 1	<i>No class</i> – [Mon.] – Labor Day <u>Chap 2</u> : Atoms, Molecules & Ions (skip section 2.9) <i>Last day to drop/add, Tues., Sept. 2 (4 p.m.)</i>
Sept. 8	Chap 2 (con't) <u>Chap 3</u> : Stoichiometry
Sept. 15	Quiz 1 (Chap 1 & 2) [Wed.] Chap 3 (con't)
Sept. 22	Chap 3 (con't) <u>Chap 4</u> : Aqueous Reactions & Solution Stoichiometry (skip Section 4.6)
Sept. 29	Chap 4 (con't) <u>Chap 20</u> : Electrochemistry (sections 20.1 & 20.2 only)
Oct. 6	Quiz 2 (Chap 3 & 4) [Wed.] Chap 20 (con't) <u>Chap 6</u> : Electronic Structure of Atoms
Oct. 13	<i>No classes</i> [Mon. & Tues.] – Fall break Exam I (Chap 1, 2, 3, & 4) [Wed.]
Oct. 20	Chap 6 (con't)
Oct. 27	<u>Chap 7</u> : Periodic Properties of Elements
Nov. 3	Quiz 3 (Chap 20 & 6) [Mon.] Chap 7 (con't) <u>Chap 8</u> : Basic Concepts of Chemical Bonding (skip Section 8.8)
Nov. 10	Chap 8 (con't) <u>Chap 10</u> : Gases <i>Deadline for course withdrawal Mon., Nov. 10 (4 p.m.)</i>
Nov. 17	Exam II (Chap 20.1, 20.2, 6, 7, & 8) [Mon.] Chap 10 (con't)

- Nov. 24 Chap 10 (con't)
 No classes – [Wed. – Fri.] -Thanksgiving Break
- Dec. 1 Chap 10 (con't)
 Chap 9 : Molecular Geometry (skip sections 9.7 & 9.8)
- Dec. 8 *Last day of classes* [Mon.]
 Chap 9 (con't)
 Special Topics
 Review for Final Exam

Lecture Final Exam: Date and time TBA

Grades are due Dec. 17 (noon) – Wed.

Note: *The lecture syllabus is only a plan and may be subject to change. Any changes will be explained in class.*