

SYLLABUS

COURSE OBJECTIVES

- 1.To discuss topics associated with fundamental solution chemistry, including principles and methods in theoretical and analytical chemistry.
- 2.To study acid-base theory, solubility, the chemistry of coordination compounds, and redox equilibria.
- 3.To introduce the basic principles of thermodynamics and electrochemistry.

COURSE OUTCOMES

- 1.The students will demonstrate critical thinking and quantitative reasoning skills related to solution chemistry, chemical equilibria, and chemical thermodynamics.
- 2.The students will acquire fundamental scientific knowledge and skills required in more advanced chemistry and biology courses.

MATERIALS REQUIRED FOR THIS COURSE

All of the following books and supplies are available in the campus bookstore.

Chemistry: The Central Science, Theodore L. Brown, H. Eugene LeMay, Jr., and Bruce E. Bursten, 11th Edition, Prentice-Hall, Inc., Upper Saddle River, NJ (2009).

Chemistry 112: Chemical Equilibria and Analysis Lab Manual, Dr. P. Kistler, Spring 2009 Edition.

Laboratory Notebook, W. H. Freeman and Company (1963). You may continue to use the same notebook used for Chemistry 111.

Scientific hand calculator.

MEETING TIMES

Lecture: Monday, Wednesday, and Friday at 9:00 AM in room SC 136.

Recitation:	Section 01	Friday	10:00 - 10:50 AM	ALH 212	Moll
	Section 02	Monday	2:30 - 3:20 PM	OBC 1	Vedage
	Section 03	Tuesday	2:30 - 3:20 PM	OBC 1	Vedage
	Section 04	Thursday	2:30 - 3:20 PM	ALH 211	Moll
	Section 71	Wednesday	7:00 - 7:50 PM	ALH 211	Raker

Dr. Kistler's Office: SC 130; Phone extension 3508.

Office Hours: Dr. Kistler's schedule will be posted on the bulletin board across the hall from her office. Dr. Kistler's e-mail address is pdkistle@cedarcrest.edu. She will also accept telephone calls at home before 11:00 PM. Home phone: (610) 258-4892.

GRADING SYSTEM

This 3-credit includes both lecture and recitation. The laboratory portion of the course must also be taken concurrently, unless the student has already earned credit for the CHE 112 laboratory with a grade of C- or higher. The student will receive a separate syllabus for the laboratory portion of the course.

To assist you in determining your performance in the course, printouts indicating your current status will be posted on the bulletin board outside Dr. Kistler's office at regular intervals.

The grade for the lecture portion of the course will be based on performance with respect to five items: quizzes, hour-exams, a final exam, attendance at recitation sessions, and an evaluation by the instructor.

There will be five 15-minute quizzes. The five quiz scores will be averaged. This quiz average will constitute 35% of the lecture grade.

Two hour-exams will also be given. The two hour-exam scores will be averaged. This exam average will constitute 35% of the lecture grade.

The final exam will be comprehensive and constitute 21% of the lecture grade.

Recitation attendance will constitute 4% of the lecture grade. For each unexcused absence from the scheduled recitation sessions, 1% will be deducted from the lecture grade, up to the maximum of 4%.

The remaining 5% of the lecture grade will reflect completion of homework assignments and classroom participation. Awarding of this 5% is left to the discretion of the instructor.

In summary, the lecture grade will be computed as follows:

$$0.35(\text{Quiz Average}) + 0.35(\text{Hour-Exam Average}) + 0.21(\text{Lecture Final Exam}) \\ + \text{Recitation Attendance [0 - 4 \%]} + \text{Instructor Evaluation [0 - 5 \%]}$$

The instructor operates on the principle that student earn grades and, therefore, she does not use a curve when assigning letter grades.

The final letter grade will be awarded according to the following scale:

93-100 %	A	80-82.9 %	B-	67-69.9 %	D+
90-92.9 %	A-	77-79.9 %	C+	60-66.9 %	D

87-89.9 %	B+	73-76.9 %	C	Below 60 %	F
83-86.9 %	B	70-72.9 %	C-		

POLICIES

Lecture Attendance

Attendance at the lecture will not be taken on a regular basis. However, regular attendance is expected and necessary. Students are responsible for all assignments given in class.

Attendance on Quiz and Examination Days

Students are required to attend class on all testing days. See the Testing Schedule later in this syllabus. If the student has some other important responsibility which prevents her from attending on a testing day, she must inform the instructor in advance and make arrangements for an alternate testing time. If this policy is followed, a make-up test will be given.

If a quiz or exam is missed with no advanced notice, a make-up test may be given at the discretion of the instructor. In such instances, a valid written excuse is required:

- (1) from a doctor or the school nurse in case of illness.
- (2) from the Dean of Students' Office in the case of family emergency.
- (3) from the student giving a satisfactory and reasonable explanation of why the test was missed.

If these procedures are not followed, no make-up will be given and the student will receive a zero for the missed quiz or exam.

Recitation Session Attendance

Attendance at the student's scheduled recitation session is required. The student will be allowed ONE unexcused absence from her scheduled recitation during the term. In addition, EVERY student is welcome to attend ANY recitation session which fits her schedule.

Obtaining Assistance

Opportunities for personal assistance are NOT limited to these recitation sessions. Dr. Kistler will be glad to discuss your concerns at ANY time in which she does not have a previously scheduled commitment.

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 and will then be posted on the bulletin board outside the instructor's office.

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.

DO NOT HESITATE TO SEEK ASSISTANCE OR ADVICE WHEN YOU NEED IT!

Obtaining Extra Credit

Opportunities for extra credit on a quiz or exam may be given at the discretion of the instructor. The instructor will consider providing an extra credit assignment when the test grade in question does not reflect the student's other performance in the course and the student has submitted all of the previous assignments related to the material being tested.

Honor Philosophy

"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 of 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."

The instructor expects each student to abide by the college's honor code.

This honor code applies to all activities associated with this course.

The student should realize that the honor code is an important aspect of the educational process at Cedar Crest College.

The following statement concerning Classroom Protocol is supported by Cedar Crest College Faculty and Administration:

"Appropriate classroom behavior is implicit in the Cedar Crest College Honor Code. Such 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 their Cedar Crest College education."

Please be sure to turn off all cell phones and pagers during class times.

Laptop computers may be used for note taking purposes ONLY. Cell phone use, text messaging, and the playing of any entertainment media during the class period are strictly forbidden. Violators will be dismissed from the course.

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."

It is Dr. Kistler's policy to deal with violations of these Standards for Academic Conduct by awarding a grade of 0 for the assignment or examination in question.

Students with Learning Disabilities

The instructor supports the Cedar Crest College policy regarding learning disabilities as follows:

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

Requirement for Enrolling in CHE 205

It is departmental policy that in order to enroll in CHE 205, Organic Chemistry, a student must pass CHE 112. To be accepted into the Forensic Science Concentration, a student must earn at least a C in Chemistry 112.

CHRONOLOGICAL PLAN FOR THE COURSE

The schedules on the following pages list the dates and topics presented in the lecture portion of this course. For convenience, the testing schedule and the material to be covered on the tests are summarized in a separate list. Due to various circumstances, these schedules may be amended during the term.

Testing Schedule Summary

<u>2009 Date</u>	<u>Test</u>	<u>Material Included</u>
Fri 1/30	Quiz 1	Chapter 13
Fri 2/13	Quiz 2	Chapter 15
Fri 2/27	Exam 1	Chapters 13, 15, 16, and 11.2-11.3
Mon 3/23	Quiz 3	Chapter 17
Fri 4/3	Quiz 4	Chapter 24
Mon 4/20	Exam 2	Chapters 17, 24, 5, and Spectroscopy
4/27, 4/28, 4/30, or 5/1	Laboratory Exam (during regular laboratory period)	
Mon 5/4	Quiz 5	Chapter 19
Final Exam	Comprehensive	Date and time to be set by the registrar during the final exam period, May 9 - 13, 2009

The instructor supports the following administrative policy:

"Your obligations for this course include attendance at the final exam, on the day and time scheduled by the Registrar's Office. You should not make travel arrangements until the final exam schedule is published; if you must make plans early, you should schedule your travel after the last final exam day."

Lecture Topics Schedule

<u>2009</u> <u>Date</u>	<u>Subject</u>	<u>Reading Assignment:</u> <u>Section Number in Textbook</u>
1/19	Introduction	
1/21	Solutions	13.4
1/23	"	Handout on Preparation and Standardization
1/26	"	13.1 - 13.2
1/28	"	11.2 - 11.3, 13.3
1/30	"	13.5 - 13.6 (Quiz 1)
2/2	Equilibria	15.1 - 15.3
2/4	"	15.4
2/6	"	15.5
2/9	"	15.6
2/11	Acids and Bases	16.1 - 16.3
2/13	"	16.4 - 16.5 (Quiz 2)
2/16	"	16.6 and Handout on Neutralization Curves
2/18	"	16.7 - 16.9
2/20	"	16.10 - 16.11
2/23	Aqueous Equilibria	17.1
2/25	Review of material for Exam 1	
2/27	EXAM 1	
3/2	Discussion of Exam 1	
3/4	Aqueous Equilibria	17.2 - 17.3
3/6	"	17.4
Spring Break		
3/16	Aqueous Equilibria	17.5 - 17.6
3/18	Complexes	24.1
3/20	"	24.2
3/23	"	24.4 (Quiz 3)
3/25	"	24.5
3/27	Complexes	24.6
3/30	Spectroscopy	Handout on Beer's Law
4/1	"	Handout on Spectrophotometry
4/3	Thermochemistry	5.1 - 5.2 (Quiz 4)
4/6	"	5.3 - 5.4
4/8	"	5.5 - 5.6
Easter Break		
4/15	"	5.7
4/17	Review of material for Exam 2	
4/20	EXAM 2	
4/22	Discussion of Exam 2	
4/24	Thermodynamics	19.1 - 19.2
4/27	"	19.3 - 19.5
4/29	"	19.6 - 19.7
5/1	Electrochemistry	20.3 - 20.4
5/4	"	20.5 (Quiz 5)
5/5	"	20.6 - 20.8