

Chem 100, Section 601: Summer Session 1, 2013

Chemistry and Society

Course Outline

Instructor: Dr. Carl E. Heltzel

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Classroom: Bilger 242

Office: Bilger 247A

Office hours: T, Th 11:00 am – 12:00 pm or by appointment.

Please feel free to come by my office with any questions you may have about lecture, homework, quizzes, exams, or anything else we both find interesting. If you cannot make my office hours, please contact me via e-mail to make an appointment. If my door is open, don't hesitate to stop in and I will help you, time permitting.

Class times: MTWTF 9:00 – 10:15 am

Class Dates: 5/28/13 to 7/5/13

Classroom: **BILGER 242 (Conference Room)**

Student Learning Emporium: Bilger Addition 209

Textbook: Chemistry for Changing Times, Hill/McCreary/Kolb, 13th Edition. (Pearson)

Mastering Chemistry Course ID: HELTZEL13SUM

You must register for this particular course with the particular Access Code that comes with your textbook. A used book will not give you the proper Access Code for this course.

General Description of Course:

This is an introductory course that focuses on the fundamental principles of chemistry and the impact of chemistry in society. It is intended for non-science majors that might not have a background in chemistry. (DP)

Course objectives:

- To promote an understanding of the importance of chemistry in many aspects of everyday life and the implications in other fields and sciences, from the arts to environmental science
- To introduce students to the fundamental principles of chemistry, on an as-needed basis
- To establish relations between learned concepts and a series of topics on health and society
- To provide the student a scientific basis to help him/her to develop a critical, educated analysis of major societal matters.

Generally, there are three units in this course:

1. Fundamental Principles of Chemistry: introduces students to the building blocks of matter, chemical bonding, principles of reactivity, intermolecular forces, solutions, thermodynamics and

kinetics, as well as the basics of nuclear, organic and biochemistry.

2. Health Applications of Chemistry: explains, in a general manner, the input of chemistry in the health sciences, ranging from the process to develop a new drug and the mechanisms of action in the body, to chemistry in the food industry and the molecular basis of exercise.

3. Societal Applications of Chemistry: the relation between chemistry and other sciences or areas of society will also be discussed, like energy production, the impact of human activity on the environment, forensic science to study a crime scene or the chemistry behind painting a work of art.

The actual material covered is subject to change. Students that come to class will be fully aware of the content for which they will be assessed on the exams and quizzes.

Student Learning:

Course material will be presented using PowerPoint presentations and reinforced by in-class practice problems. It is the student's responsibility to put in the effort required to read and learn the material and to complete the assigned homework. Chemistry is a quantitative science and, therefore, throughout the semester you will solve mathematical problems both in class and as homework.

Quizzes, which will make up 10% of your final grade, may be unannounced and cannot be made up. There will be about 10 quizzes, and each student will be able to drop their lowest quiz score.

To become proficient at problem solving, complete the homework problems and develop good study habits. I will be happy to assist you in achieving this goal. Please do not hesitate to ask questions in class, or see me in my office for additional help.

Studying and Responsibility: If you do all the assigned work and keep up with the material you will find this course to be interesting and rewarding. If not, you will find that the course quickly becomes incomprehensible. You must try to keep up; it is very difficult to recover once you get behind with the material. The work in this course is university level: it is not enough to recall facts and definitions and solve simple problems. The goal of this course is for you to understand chemical processes on the molecular level so that you can understand and discuss the issues we face in our society today-those at the macroscopic level: Mastering the material means that you understand chemical concepts and can solve complex problems by transferring the knowledge you gained to solve unique problems that are related to those plaguing our world today.

To maximize the learning experience the student should:

1. Read the material before coming to class.
2. Attend class regularly and take notes for later review.
3. Complete the assigned homework problems, and attend class so you don't miss any quizzes.
4. Ask questions during class and/or office hours-questions; questions and answers given in class often help other students.
5. Use the tutors in the learning emporium, they are there for you. The learning emporium is also a great place to meet for study groups. Study groups are an excellent method for helping you understand the material.

6. Realize that this is a skills building course, and is compressed into a shorter than normal summer session. This will require a lot of study outside of class.

7. Please turn your cell phones to voice mail or vibrate mode during class. **Please close your laptops during class.**

Study Groups:

Participation in study groups is an effective way to learn chemistry - learn by helping each other. Get to know each other and form study groups. Students who are part of study groups tend to outperform others. If you can explain a concept to another student correctly, you can be assured that you understand that concept.

Grading:

The student's grade in the course will be decided by *Mastering Chemistry* homework, three exams, and a number of quizzes. Any types of academic dishonesty including cheating or plagiarism will result in the failure of the course.

Relative weights:

<u>Evaluation</u>	<u>Date</u>	<u>Chapters</u>	<u>Relative weight</u>
Homework	See MC site	MC	10%
Quizzes	Unannounced	TBD	10%
Assignments	TBA	TBA	10%
Midterm exam 1	June 11	TBA	20%
Midterm exam 2	June 25	TBA	25%
Final exam	July 5th (9:45-11:45am)	Cumulative	25%

Course Grades:

<u>Grade</u>	<u>Percent</u>
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	<59%

Curving at the semester's end may be employed if necessary. I will explain my curving method in class.

Homework:

Homework assignments and due dates can be found on masteringchemistry.com. It is the student's responsibility to register, then complete and keep track of due date for each assignment. Each chapter covered in the textbook will be accompanied by a homework assignment (usually about 15-20 questions per assignment).

Mastering chemistry will allow multiple attempts for answering most questions. The method of determining the grade is as follows:

- Credit is deducted for incorrectly answering a multiple-choice or true/false question before the last attempt.

Deduction per incorrect answer: $100\% / (\# \text{ of answer options} - 1)$

- Credit is deducted for incorrectly answering any other type of question before the last attempt.

Deduction per incorrect answer: 10%

Late assignments will be reduced credit by 25% over each day late, but will never reduce credit by more than 50%.

Exams:

Please bring Student ID, #2 pencils, erasers, and a non-graphing calculator. Exams may be multiple choice and if so, students are responsible for properly marking scantron sheets. Any fault in improper marking of the scantrons or failure in forgetting to put names on the assessment is owned by the student.

No make-up exams will be given. If a midterm exam is missed by the student for an excused reason (see me to determine the criteria for an absence to be excused), documentation of the valid reason must be provided by the student to the instructor PRIOR TO THE EXAM. Once the absence is deemed excused, the relative weights of other grades will be redistributed to replace the missed midterm exam.

If you believe that your exam was scored incorrectly, or that you believe your answer was correct, don't hesitate to bring it to my attention. Write up a summary of the question and why you think your answer was correct. Use your textbook to cite the information you base your answer on. Please turn this in to me within three days of the date you receive your exam grade and I will do what I can to see if you can get credit.

All students must be present for the final exam at the scheduled time. Chemistry contains subject material that is inherently cumulative. The final exam will, therefore, focus on the chapters listed above (see Relative Weights section), but will incorporate material covered throughout the semester.

Attendance:

Not strictly graded, but missing one summer session class can hurt your chances of being successful in the course. Students are responsible for all material and announcements made in class. Ask a classmate for notes or consult the laulima website for information if a lecture is missed.

Laulima Website:

Course resources (lecture slides, practice exams, midterm grades, etc.) and general announcements will be uploaded to the laulima website for student access. Go to <https://laulima.hawaii.edu/portal> to login using the same ID and password as your my UH account.

Important dates:

05/30/2013	Last day to register
05/30/2013	Last day to receive 100% tuition refund
06/03/2013	Last day to receive 50% tuition refund
06/03/2013	Last day to drop (No "W" on transcript)
06/11/2013	EXAM #1
06/25/2013	EXAM #2

06/19/2013 Last day to withdraw from class ("W" on transcript)
07/05/2013 **FINAL EXAM**

Students with Disabilities:

The University of Hawaii is an equal opportunity/affirmative action institution, dedicated to teaching all students and reaching all learners. It is our commitment to make our lectures and classrooms accessible to all students. Any student who feels s/he may need an accommodation based on the impact of a disability is invited to contact me privately. I would be happy to work with you, and the KOKUA Program (Office for Students with Disabilities) to ensure reasonable accommodations in my course. KOKUA can be reached at (<http://www.hawaii.edu/kokua/>, (808) 956-7511, (808) 956-7612 (voice/text), or in room 013 of the Queen Lili'uokalani Center for Student Services. This information will be kept confidential.

Prerequisites: None.

However, beginning the first CHEM 100 class, you should be able to do the following (some of these will be reviewed briefly, but if you cannot do these, you should work especially hard now, or consider delaying Chemistry until you build your background).

This background knowledge is expected on all exams!

- Use mathematical terms and equations including: algebra, exponential numbers, logarithms, ratio and proportion.
- Know how to operate your calculator-don't wait until the day of exam I to realize you are not familiar with your calculator. See me early on if you need help with this; don't be embarrassed, it's no big deal.
- Make and read graphs.
- Interpret word problems.

Academic Dishonesty: Academic dishonesty cannot be condoned by the University. Such dishonesty includes cheating and plagiarism (examples of which are given below), which violate the Student Conduct Code and may result in expulsion from the University.

I understand the level of stress felt by students, especially first-year students attempting to get acclimated to college life. If you are having difficulties, please see me or a student councilor rather than be tempted to cheat. Dishonesty will not only detract from the value of your education, it may result in severe consequences.

Refer to the University Student Handbook for more information.

Cheating includes, but is not limited to:

- Giving or receiving unauthorized assistance during an examination;
- obtaining unauthorized information about an examination before it is given;
- using inappropriate or unallowable sources of information during an examination;
- falsifying data in experiments and other research;
- altering the record of any grade;
- altering answers after an examination has been submitted;
- falsifying any official University record; or,
- misrepresenting the facts in order to obtain exemptions from course requirements.

Plagiarism includes, but is not limited to:

- Submitting, in fulfillment of an academic requirement, any document that has been copied in whole or in part from another individual's work without attributing that borrowed portion to the individual;
- neglecting to identify as a quotation another's idea and particular phrasing that was not assimilated into the student's language and style or paraphrasing a passage so that the reader is misled as to the source;
- submitting the same written or oral material in more than one course without obtaining authorization from the instructors involved;

Copies of the Student Conduct Code are available from the Dean of Student Services.

Native Hawaiian Values:

An understanding within the course is that the instructor and students will form a community where the following values will be upheld:

- Aloha – Love, compassion, charity etc.
- Laulima – To work together, Cooperation. "Many hands make light work"
- Lokahi – Unity, Harmony, Agreement etc.
- Kuleana – Responsibility, Rights, Privilege etc.
- 'Ike – Knowledge, Awareness and/or Understanding
- Malama – To take care of, care for, Preserve, Protect etc.

It is important to remember how powerful an impact young people can have on the policies of our nation...tens of thousands of students helped to end racial discrimination with their lunch counter sit-ins. The environmental movement was given great impetus when young Americans organized Earth Day and insisted on laws to protect the quality of our land, air, and water. During the late 1960s, many young citizens rose up in anger to demand an end to the Vietnam War.

-President Jimmy Carter in *Talking Peace: A Vision for the Next Generation*, 1993