

CH 110 Syllabus

Chemistry and Society

Fall 2005

TuTh, 10:50 AM-12:05 PM, KH B01

Instructor: Dr. Brian K. Barr, Associate Professor of Chemistry
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Office Hours: Mon. 10:00 AM-1:00 PM, Weds. 2:00-4:00 PM,
Fri. 10:00 AM-12:00 PM. Other hours by appointment.

Required Texts: John Suchocki, *Conceptual Chemistry: Understanding Our World of Atoms and Molecules*, 2nd Ed., New York: Pearson-Benjamin Cummings, 2004.

Course Website: Located at <http://www.loyola.edu/blackboard/index.html>

Overview and Introduction: This course presents the basic principles of chemistry through the study of topics relevant and important to human society. In this course, it is hoped that students will learn to appreciate the fundamental nature of chemistry in our modern world. Students will write essays that force them to explore the relation of science to ethics and culture. It is also the intent of this course to improve students' scientific literacy, so that they can approach scientific and technological issues with a degree of critical judgment. A theme of this course will be to show how chemistry is the basis of biological processes and is used to aid our understanding of topics such as human nutrition and disease.

In class we will cover approximately two thirds of *Conceptual Chemistry*, the course's primary text. These chapters cover a variety of basic chemical concepts, and are the course's central subject matter. The last section of the text (Chapt. 14-19) is more topical, with chapters organized around various issues related to chemistry. You learn about the material in these chapters during an end-of-semester Poster Session, details of which are discussed below.

To succeed in this course one needs to attend class, pay attention, participate in discussions, take a complete set of notes, read the texts and study the lecture material. The Suchocki text contains a number of useful supplements and has its own website, containing a variety of animations, tutorials, etc. to aid you in your studies. Students are also strongly encouraged to study together. Some material covered in class is not in the text. Test and quiz questions are based on the material covered in class.

Class Attendance: It is assumed that students enrolled in this course are mature, conscientious and have a genuine desire to learn about chemistry. Students are expected to actively participate in class. Students are expected to attend all classes, although this is not explicitly required. Attendance at the Poster Session is mandatory. Students are responsible for all material presented or discussed in class.

Tests and Quizzes: This course contains three tests and one final exam, to be given on the dates listed in the course outline. The course will also contain several quizzes, which may or may not be announced in advance. All tests and quizzes will be graded on a scale of 0-100%. A quiz missed without a justifiable cause will earn a grade of zero. A quiz or test missed due to

illness or other very serious reason must be made up by the next class period, or may be made up after that time at the discretion of the instructor. The instructor must be notified if you are going to be absent from a test or quiz.

Poster Session: As mentioned above, the topical material at the end of the primary text (Chapt. 14-19) will be covered in a class poster session scheduled for Tuesday, December 6. Students will be assigned a chapter to specialize in and learn on their own. At this poster session, each student will present a single poster board designed to communicate some aspect of the chapter material to a general audience. Chapters will be assigned to students on the basis of their preference, while making sure that all chapters have good coverage. **On Thursday, October 27** each student will turn in a list of their top three chapter choices. I will inform the class of their individual assignments on Tuesday, November 1.

A goal of this poster session is for students to learn about different aspects of chemistry from the work of their classmates. For that reason each student will grade six of their classmate's posters on a scale of 1 to 10 in each of the following categories: Clarity of Presentation, Originality, Visual Appeal, Accuracy, and Overall Impression. These scores will be averaged and will form 75% of each student's poster session grade. The remaining 25% of the poster grade will be based on how well each student grades other student's posters, with the best grades earned for well thought out critiques.

Posters should have a "References" section, which must contain at least three sources of information. Sources may include the textbook, newsmagazines (Time, Newsweek, etc.), science magazines (Scientific American, Science, Discover, etc.), an encyclopedia (only one such reference per paper), newspapers, reference books, etc. Class handouts may not be used as references. Due to the rapid advancement of scientific knowledge, references used should be as current as possible. Sites on the Internet may be used as references, as long as the following conditions are met: 1. Be critical about web sources! A lot of information on the Internet is garbage, and if you reference an unreliable site you will be penalized. 2. No more than 50% of referenced sources may come from the Internet. 3. Citations for Internet sources must include the author, title, organization publishing the web page, the complete URL address and the day you accessed the site.

Grading: Grades in this course are calculated as the average of the following: tests and quizzes, 75%; take-home essay assignments 12.5%, poster session 12.5%. Letter grades are determined as follows:

A	90-100%	C	70-73
A-	87-89	C-	67-69
B+	84-86	D+	64-66
B	80-83	D	60-63
B-	77-79	F	<60
C+	74-76		

Disabilities Statement. It is the policy and practice of Loyola College to comply with the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, and state and

local requirements regarding students with disabilities. Students with questions or concerns should contact Marcia Wiedefeld, Director of Disabilities Support Services, at 410-617-2062 or mwiedefeld@loyola.edu.

Academic Integrity: This course operates on the premise that all work submitted by students will be the honest product of their own individual effort. Students are expected to be familiar with policies regarding academic dishonesty and plagiarism as outlined in the Loyola College Honor Code. Ignorance of the Code is not a valid reason for committing an act of academic dishonesty.

Course Outline

(A detailed list of assigned readings and suggested Review Questions, Exercises and Practice Problems from the text can be found at the course website under “Assignments”)

<u>Date</u>	<u>Chapter</u>	<u>Topic</u>
Sept. 6, 8	1	Course Introduction Scientific Method Matter & Energy
Sept. 13, 15	2	Physical & Chemical Properties Atoms, Elements & Compounds
Sept. 20, 22	3	History & Structure of the Atom
Sept. 27	4	The Atomic Nucleus & Radioactivity
Sept. 29	Exam I (Chapt. 1-3)	
Oct. 4, 6	4	The Atomic Nucleus & Radioactivity (cont.)
Oct. 11, 13	5	Atomic Models
Oct. 18, 20	6	Chemical Bonding & Molecular Shapes
Oct. 25	Exam II (Chapt. 4-5)	
Oct. 27, Nov. 1	7, part of 8	Molecular Mixing (cont.), Properties of Water
Nov. 3, 8, 10	9	Chemical Reactions and the Mole
Nov. 15, 17	12	Organic Chemistry
Nov. 22	Exam III (Chapt. 6-9)	
Nov. 29	12	Organic Chemistry (cont.)
Dec. 1	13	Biochemistry & Nutrition
Dec. 6	Student Poster Presentations (Chapt. 14-19)	
Dec. 8	Biochemistry & Nutrition (cont.)	
Thursday, Dec. 15, 9:00 AM Final Exam (Exam IV) (Chapt. 12 & 13)		

8/29/2005