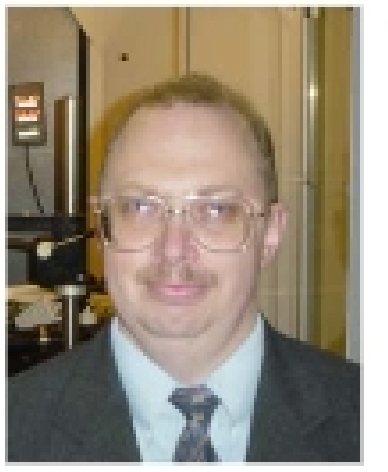
Chemistry 1500: Chemistry in Modern Living - Syllabus - Summer 2008

(Last Revised on *June 29th*, 2008)

Department of Chemistry, Youngstown State University, Professor Allen D. Hunter



Credit: 3 Semester Hours of Credit (6 hours per week of lecture/discussion during the Summer)

Lecturer: **Dr. Allen Hunter** (Office 5015, X-Ray Lab 5024/5020, Research Lab 5005)
Phone: 330-941-7176 (Office - includes voice mail)
E-mail: adhunter@ysu.edu (If you email make sure that you include your full name in the text of the email and that the email header starts with "Chemistry 1500")
Home Page: http://www.as.ysu.edu/~adhunter/index.html

Required Texts:
1. Text (required): Stanitski, C. L.; Eubanks, L. P.; Middlecamp, C. H.; Pienta, N. J.: "*Chemistry in Context: Applying Chemistry to Society*", 4th Edition, ©2003 (other editions are also OK but they have somewhat different organizations and contents and have somewhat different supplementary features).
2. Problem Sets and Answers (required): http://www.as.ysu.edu/~adhunter/Teaching/Chem1500/index.html
3. Old Exams and Answers: http://www.as.ysu.edu/~adhunter/Teaching/Chem1500/index.html
4. Outline Notes: http://www.as.ysu.edu/~adhunter/Teaching/Chem1500/index.html **Print These Outline Notes Out and Bring Them to Class.**

Lecture/Discussion: Tuesday and Thursday 8:00 till 11:00. WB 3031.

Office Hours: Monday 11:00 to 12:00, Tuesday and Thursday 7:00 to 8:00 and 11:00 to 12:00. Please feel free to drop in and see me any time during my office hours or during the rest of the week. If you want to be sure to have me there at a specific time outside of my office hours, make an appointment during class, over the phone, or via email. I'll generally be in WB 5015 (my office), or 5024/5020 (the X-ray lab) at these other times.

Syllabus: Regular revisions are done on this syllabus and then posted on my WEB site. These revisions reflect announcements made in class. The most recent syllabus posted on the WEB site is to be considered the official syllabus for the class. Typical revisions include changed dates for exams, topics to be covered, etc.

Goals and Objectives of Chemistry 1500: Chemistry 1500 is a General Education Course that is designed to meet the needs of students who are not science or technology majors. The central goal of Chemistry 1500 is to give you an appreciation of how Chemists approach questions relevant to your every day life. This will be done by studying particular issues/themes that are of national importance and/or that are prominent in the news. These topics will be studied from a "chemical" perspective and you will be introduced to the basic tools that chemists use (atoms, molecules, reactions, analysis, etc.) when attempting to answer questions about them. At the end of this class, it is my hope that you will have developed a better appreciation of the role that Chemistry plays in our lives, of the scientific method as applied to many topical issues, and of how a Chemist attempts to answer questions.

Preliminary Schedule of Thematic Topics:

Primary Theme of the Topic	Topic(s)	Primary Chemical Topics
The Air We Breathe	**1**	**States of Matter, Reactions, and Risk** • Primary Focus of 1st Exam
Protecting the Ozone Layer	**2**	**Atoms and Light** • Primary Focus of 2nd Exam

The Chemistry of Global Warming	**3**	**Molecular Structures and Moles** • Primary Focus of 3rd Exam
Energy, Chemistry, and Society	**4**	**Thermodynamics, Kinetics, and Fossil Fuels** • Primary Focus of 4th Exam
The Fires of Nuclear Fission	*5*	*Atomic Structure, Nuclear Fission and Fusion, and Nuclear Weapons*
New Energy Sources for the New Century	*6*	*Alternative "Green" Energy Sources*

* The order and relative weighting of these topics is likely to change. We cover the first four topics in depth each time the class is offered. The balance of the remaining topics covered varies in depth each semester. This general coverage will give an overview of chemistry while the specific examples illustrate the application of Chemistry to a specific topical issues in greater depth.

Grading: 100 1st Midterm (≈*Tues. July 15th*) - Group & Individual Parts
100 2nd Midterm (≈*Thurs. July 24th*) - Individual Parts
100 3rd Midterm (≈*Thurs. July 31st*) - Group & Individual Parts
100 Final Exam (Last Day of Class, Thurs. Aug. 7th) - Group & Individual Parts
400 Total Points

Grade Ranges: 90-100% - A; 75-89% - B; 60-74% - C; 50-59% - D; <50% - F

[Note: No grading curve is used. Also, the dates and focus of the mid-term exams may be changed - all such changes will be announced in class.]

Exams: The exams will cover the materials presented in the lectures, much of which is not in the textbook. Questions on exams in this course typically require paragraph or page length written explanations (which should typically include diagrams and/or equations) or "chemical" answers (e.g., equations, molecular formulae, or molecular structures). Each of the exams will emphasize the last several weeks' work while the final exam will be comprehensive. The general topics to be covered on each exam will be announced in the previous class. Most questions will be done on an individual basis but some will be answered on a group basis. You will be told in writing on each exam which questions are to be done in groups. The exams are best studied for by working through problem sets and old exams which are available on my WEB site. **You must bring photo ID with you when you write exams and place it on the desk top.**

Bonus Point Activities: No "extra point" activities are available for this course so you will need to start working early!

Make-Up Exams: Make-up exams will not be given. Absences that have not been approved as described below will result in a grade of **ZERO** for that exam. Foreseeable absences for sporting events, holidays, car breakdown, etc., will be given **only** if I am informed in advance by phone/voicemail or written note in class and only if I agree in advance. Unforeseeable absences for health reasons, car breakdowns, family emergencies, etc., must be discussed with me in person or by phone/voicemail *within 24 hours* of the missed exam time for approval to be granted. The points for a missed quizzes will, upon approval, be applied to the final exam.

Exam Regrading: Regrading of exams will be done if you think that I might have made an error in assigning your exam grade. However, you **may not** change or add to the answer before you submit it for regrading. An exam must be submitted for re-grading *within 48* hours after it has been returned to the class. The whole exam may be re-graded since the grades assigned individual questions are sometimes linked. [Note: Representative exams are scanned/photocopied before they are returned. These copies are compared to the originals returned for re-grading to ensure that answers have not been altered.]

Attendance: Lecture attendance is **mandatory**. Your timely arrival in class is expected. It is **your responsibility** to be sure you sign in and therefore if you fail to arrive on time or do not sign in at that time you will be deemed to be officially absent (i.e., with respect to the influence of attendance on borderline grades). **Students are responsible for all information, material, and announcements made in class, *including changes to this syllabus.*** Attendance in class, **as recorded on the sign in sheets**, is used in deciding borderline grades. Those students who are recorded as ***officially*** *absent* (i.e., based on the sign in sheets) for *more than 2 classes for which I have attendance records* will have their grades adversely effected. **Be on time!!!**

Assigned Readings, Problems, and Studying: You are required to read the assigned chapters from the lecture text and/or other materials **before** we discuss them in class. Some question based on these readings will appear on exams. I will assign problems from the text, problem sets, and old exams regularly. These will not be graded but are very important since these are the questions on which most of the exams will be based! **It is recommended by YSU that for all courses students study at least 2 to 3 hours outside of class for every scheduled class hour. For Chemistry 1500 during the summer, this corresponds to approximately 12-18 hours a week.** Students with less complete or less recent science backgrounds may require additional study time. This time should be spent (in order of importance): working through old problem sets and exams (60-80% of your time), studying your notes (20 to 40% of your time), and reading the text (10-20% of your time). The **problem sets, old exams, and answers** are available on my WEB site.

Chemistry 1500 WEB Site: I maintain and extensive WEB site for this course (i.e., at http://www.as.ysu.edu/~adhunter/Teaching/Chem1500/index.html) as do the text publishers (i.e., at http://www.mhhe.com/cic or http://highered.mcgraw-hill.com/sites/0072410159/information_center_view0/). My site contains the most current version of the syllabus (which is regularly updated reflecting announcements made in class), outline notes for each topic to be covered in class, as well as copies of the problem sets and old exam, and selected answers for these. These materials are provided as Microsoft Word (i.e., item.doc) or Adobe Portable Document (i.e., item.pdf) files. It is your responsibility to check my WEB site regularly and to download all required notes, problem sets, old exams, etc. If you do not have WEB access at home, each of the computer labs on-campus can be used to reach my site including the PC lab in the Chemistry Department (i.e., on the 5th floor of Ward Beecher Science Hall). If you are inexperienced with using WEB resources, many on-campus labs typically have student assistants available to help or you can ask one of the other students present.

Outline Notes: To assist you in organizing your notes, **outline notes for each topic** to be covered are available on my WEB site. For maximum benefit, these should be downloaded before class and brought with you to help you organize your notes. You should quickly look at these outline notes and at the appropriate sections of the text before class and then look your notes and the text over in more detail after each class. It is your responsibility to print them yourselves. Updated versions of these notes may be posted on the WEB site reflecting additions/changes suggested by class discussions.

Academic Honesty: In accordance with university policy and professional standards, the highest levels of academic integrity are expected in this class. The code of student conduct will be *strictly* enforced. Academic dishonesty will result in severe reductions in grades and/or expulsion from this class and/or the university. Because of the reported widespread abuse of online "term paper mills" and other types of plagiarism, sections of text from each submitted term paper will be compared to the WEB's content and other sources. Using any content from any source without attribution is plagiarism and is a severe form of academic misconduct and will be treated as such. If you are unsure of how to reference your sources and/or what constitutes plagiarism, please see me.

First Week's Activities Expected of ALL STUDENTS: During the first week, I will go over this syllabus and discuss what is expected of each student in this class. I will also start on the course content.