Syllabus
ISC 209
Chemistry in the Home
Spring 2007

Instructor: Dr. Ken O'Connor; Phone: 562-0469
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Issues:
We will examine the nature of materials commonly found in the home and try to learn how to evaluate whether or not they are hazardous. We will examine several factors such as possible acute toxicity, long term exposure hazards, synergism with other materials, flammability and explosion hazards, and environmental impact from improper use and/or disposal. In all cases we will endeavor to learn how to distinguish levels of hazard associated with these materials.

Objectives:
The primary objective of this course is to provide the student with an introduction to the basic concepts of chemical science as it applies to materials commonly found in the household. Within this framework, it is expected that the student will learn how to examine and process information, ask critical thinking questions and build problem-solving skills. It is hoped that at the end of this course a student would be able to read a newspaper or magazine article relating to chemistry and intelligently evaluate it. This is a four credit hour course with two contact hours per week; the lecture part of the class is conducted on-line.

Effort Required:
This course fulfills the Integrated Science requirement for many degree programs. A considerable effort is required of the students. The student should expect to spend at least 12 hours of effort outside the class each week in order to read the on-line notes, take on-line quizzes, write papers and prepare lab reports. Depending on background and preparedness, some students may have to spend more time on this course.

Prerequisites:
MTH 121 or MTH 123 or MTH 127 or MTH 130 or MTH 130E or MTH 229

Materials Recommended:
The Dose Makes the Poison, 2nd Edition, by M. Alice Ottoboni. Wiley and Sons, 1997. There is no required textbook for this class. You will be able to complete the quizzes in this class by using the on-line notes.

Withdrawal Policy:
The University withdrawal policy is followed in this course. The withdrawal period for an individual course begins January 8 and ends on March 16, 2007. Complete withdrawal from all classes for the semester begins March 19 and ends on April 27.

Mandatory Laboratory Safety Training:
All students are ***required*** to successfully complete the online laboratory safety training module before they can work in the laboratory. Failure to complete this training during the first week of the semester may result in the student being administratively withdrawn from the course.

Class Attendance

You need to attend lab each week. Labs that you miss MAY be able to be made up. A student needs to complete a minimum of ten labs or the student will receive an incomplete. In most cases, I will try to have you make up the lab(s) you missed or substitute equivalent labs whenever possible.

Grading:
Papers: Students will be required to submit three formal papers, each of which will count for 20% of the course grade or a total of 60%. Each of these papers will be a minimum of four pages in length (excluding the cover page) and will each require a certain level of library and/or internet based research. More specific information on the papers will be found below.

Oral Presentation: Each student will be required to make a brief (approx. 5 minute) oral presentation using PowerPoint. This will count for 5% of the course grade. If you do not do an oral presentation, you may be given an incomplete in the class.

Final Exam: This exam will be multiple choice and will account for 10% of the course grade. The final exam is taken on-line and you can only take the final exam once.

Labs: There will be twelve laboratory reports. You need to be present for a minimum of ten labs and lab reports constitute 25% of your grade. Lab reports are due at the beginning of lab, one week after the experiment. NOTE WELL: If you are not in the laboratory to perform the experiment you cannot turn in a report for that lab. A Microsoft Word document of the lab that we will be doing in class will be emailed to you. It is your responsibility to print a hard copy of the lab and bring it to lab so that data can be entered into it. In some cases, labs may be able to be made up. Setting up make-up lab is not always possible due to time constraints; therefore, the make up of labs will be handled on a case-by-case basis.

Quizzes: Every student is required to take on-line quizzes on each chapter using WebCT. These quizzes are multiple-choice. In some cases, a minimum score of 75% is required before you can take the next quiz. The purpose of the quizzes is to ensure that you have understood the material. A set of on-line lecture notes is also on-line. If you obtain a quiz score of less than 75%, you must retake the quiz until you achieve a minimum score of 75%. Your quiz grades are not used in calculating your final grade; however, to complete this course, all of the quizzes must be taken and a minimum score of 75% must be obtained on ALL quizzes.

For every quiz that is either not taken or is not passed (75% minimum score), two points will be deducted from your final average. ALL QUIZZES AND THE FINAL EXAM

MUST BE TAKEN BY 5pm, Sunday, May 5TH. You can access the quiz for each chapter by clicking on the last entry in the table of contents for each chapter.

Your Grade in this class: Overall Calculation of Final Grade: Letter grades will be assigned on the basis of: 100-90%=A, 89-80%=B, 79-70%=C, 69-60%=D and less than 60% is a F.

University Holidays:
January 15 is a university holiday. There will be no class on January 15.

Communication:
You can call my home (until 11pm). I will email you frequently so please check your email daily (yes, daily). I will often send you reminders concerning quiz deadline dates and assignment deadline dates, as well as other information. E-mail or phone is the preferred method for contacting the instructor outside of class.

Papers:
Each student will be required to submit three formal papers. Each paper will require a certain amount of library and/or internet research. Papers will be a minimum of four pages (excluding cover page), double spaced, with 1 inch margins, in a readable 12 point font. The papers must be submitted through WebCT Vista. **They must be submitted as Microsoft Word document files**. Adequate references must be cited in the paper. Plagiarism will not be tolerated. Your web references will be checked to ensure that you are the author of the paper! Do not use spaces in the name when saving the file on your computer. For example, an appropriate file name would be: iscpaper1.

PLEASE NOTE: IF THE PAPER IS LESS THAN 4 PAGES (excluding references and cover page) and/or IT IS NOT A MICROSOFT WORD DOCUMENT, THE PAPER WILL NOT BE ACCEPTED. YOU WILL NEED TO RESUBMIT IT AFTER YOU HAVE MODIFIED IT FOR THE PURPOSE OF MEETING THE REQUIREMENTS.

Paper #1: Comparative critique of two or more papers, one chosen as an exemplar of science and one as an example of pseudoscience. This research paper will be a minimum of four pages, double spaced, and submitted as a Word document. Obtain approval of your topic and references before you write the paper. Your paper will have a minimum of four references. Use a cover page for the title of the paper, your name and the name of the course. Due date is February 5, 2007. Turn in a hard-copy to your instructor on February 5 and also submit the paper to WebCT.

Paper #2: Provide a synthesis based on three or more reference sources emphasizing scientific findings and the strength of those findings. Examples of suitable topics are: Is there really global warming, Is there an energy crisis, etc. There are many topics and I will provide you with an extensive list of topics. This research paper will be a minimum of four pages, double-spaced and submitted as a Word document. Obtain approval of the topic before writing the paper. Due date is March 5, 2007. A PowerPoint presentation will be given by each student on her/his topic on March 12, 2007.

Paper #3: Interpretation of MSDS sheets. Any chemical manufacturer is required to provide Material Safety Data Sheets (MSDS sheets) for every product it makes. Just because a product has a MSDS it does not necessarily make it hazardous. Each student will be given a Material Data Safety Sheet, but the actual name of the compound will be replaced with a compound number. You will be required to read and interpret the MSDS sheet. You will then rate the hazards of the material on a scale from 1 (innocuous) to 10 (extremely hazardous even in minute amounts) and write a paper explaining the basis for this conclusion. Due date is April 23rd.

Presentation: An oral presentation summarizing an area of scientific research based on a minimum of three references. The topic used for the synthesis paper can also be used for the oral presentation. The presentation must be a minimum of five to ten minutes and will be submitted as a PowerPoint presentation and given orally on March 12th in class during the lab period.

Important Dates for Papers/Presentations:

Paper	Date specific topic will be chosen by	Paper is due on
1	January 22	February 5
2	February 12	March 5
3	You will be given a MSDS for this paper	April 23
4	Presentations will be given on:	March 12

Late Papers: For every day that the paper is late, two points will be deducted from the grade of the paper. Email the instructor the paper if you cannot provide him with a hard-copy on the day that it is due. The next time you see the instructor, provide him with a hard-copy of the paper. To avoid being penalized for turning in a late paper, a university excused absence will be accepted. Please email me if your paper is going to be late. You can turn in your paper early if you finish it before the due date!

IMPORTANT: If you are going to turn in a late paper, please still come to class so you can conduct the lab. Do not miss class because you do not plan to turn in your paper.

Please Remember:

1) If you can't submit your paper to WebCT due to computer problems, email me a copy of the paper.
2) If you turn in your first paper late, email it to me and then give me a hard-copy the next time you see me.
3) You need to take all of the on-line quizzes and the final by 5pm, Sunday, May 5th.
4) If you are confused or don't understand something, please call me or email me.
5) **If you are absent from lab, please email me as to why you were absent and when you think you will be able to return to lab.**
6) Please check your email account frequently. Make sure you have sufficient storage space in your email account to accept attachments from me. Delete old emails to free up your allotted disc space.

7) If you have a personal crisis in your life, please let me know so we can determine how best to handle the crisis while you are taking this class.
8) Please do NOT procrastinate when it comes to writing papers. Please put time and effort into writing your papers and do not hand me something that is poorly written.
9) Please treat me and your fellow students with respect, just as I will treat you with respect.
10) Please do not talk when I am talking. Please put cell phones on vibrate during class. I understand that there are times when you may be expecting an important phone call during class. Please let me know at the beginning of class if you may need to leave the room to respond to a phone call.