Chem / Envsty L111: Environmental Concerns and Chemical Solutions

Professor Timothy Dransfield Spring 2007

Class Meetings and Office Hours:

Lecture Meeting: TTh 10:00 – 11:15 am in **S – 02 – 063**

Discussion Section: T 11:30 am – 12:20 pm in **S – 02 – 063**

Contact Information for Professor Dransfield:

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I also have a physical mailbox in the Chemistry Department Office (S-1-075)

Reading Assignments:

Text (required): Eubanks, Middlecamp, Pienta, Heltzel and Weaver,
CHEMISTRY IN CONTEXT (5th Edition), ACS (2005)
Chemistry in Context Web Site: www.mhhe.com/cic
Course Website: alpha.chem.umb.edu/chemistry/chL111/
You **will** need a calculator for this class

Reading Assignments: are from the ACS text. The topics that will be covered in this section of Chem / Envsty L111 are (in this order):

Chapter 1	The Air We Breathe
Chapter 2	Protecting the Ozone Layer
Chapter 3	The Chemistry of Global Warming
Chapter 5	The Water We Drink
Chapter 6	Neutralizing the Threat of Acid Rain
Chapter 4	Energy, Chemistry, and Society
Chapter 7	The Fires of Nuclear Fission
Chapter 8	Energy From Electron Transfer

Exam Schedule:

In-Class Exams – 10:00-11:15 am (regular class time)

Exam 1	Thursday	February 22	Chapters 1-3
Exam 2	Thursday	April 5	Chapters 3, 5, 6
Exam 3	Thursday	May 10	Chapters 4, 7, 8

These three exams will be held in our normal classroom, S – 02 – 063

The date, time and location for the Final Exam will be announced when they have been assigned by the Registrar

Grading for the Course:

The grades for the course will be determined as follows:

Exams	{each worth 20%}	60% of total
Letter		20% of total
Weekly Homework Assignments		10% of total
Weekly Quizzes		10% of total

DETAILS of the individual parts of grading are as follows:

(1) **In-Class Exams**: Three exams will be given throughout the semester. These will be spaced approximately equally throughout the semester and each exam will cover primarily the stated course material. The instructor reserves the right to ask questions about previously covered material, *i.e.*, if the entire class performs poorly on a single question on exam 1, it is very likely that a very similar question will be asked on exam 2.

If you are more than 15 minutes late to the exam, you will NOT be allowed to take the exam.

Each of these three exams will be given at the scheduled class time.

Each of the exams will be graded on a scale of 200 points.

You may substitute your Final Exam score for your lowest in-class exam score if it is needed.

Since you are able to substitute your Final Exam score for one of your in-class exam scores, *there will be no makeup exams given for any reason.* Exams will not be given at any times other than those scheduled.

A score of ZERO will be recorded for any exam that is missed for any reason; in such a case, the student must take the Final Exam and substitute the score earned on the final for the missed exam.

(2) **Final Exam**: The final exam is ***voluntary*** *and* ***cumulative,*** *i.e.,* it will cover the entire material of the course.

The final exam will be graded on a scale of 200 points.

The final exam should be taken by any student who is unhappy with one of their in-class exam scores. The score received on the final exam will be substituted for the lowest score the student received on their three in-class exams.

If the students' score on the final exam is lower than any of their three regular in-class exams, then the final exam ***will not be counted*** in the calculation of the student's final grade.

(3) **Letter**: As a large part of the job of an environmental scientist is that of communicating to the masses, I would like you to show your proficiency in describing the science we've covered in class to a lay-person. I have set up a scenario for you to do so.

In this scenario, your great aunt, who is 85 years old and lives in Nebraska, found out you were taking a course called Environmental Concerns and Chemical Solutions. She is so thrilled because she watches CNN and hears all about environmental issues, but since she hasn't taken a science class in 70 years and has spent her whole life working on her farm, she doesn't quite understand what the problems and solutions are. She understands that you are very busy; she is so proud of you and brags about you to all her friends. Could you please explain to her (*in no more than two pages*) what is the big deal about (ONE of the following issues {global warming, the ozone hole, or acid rain}, and what can she do to make a difference.

This letter is worth 20% of your grade. The first response will be due at the beginning of class on Thursday, April 26, 2007.

(4) **Quizzes**: Short quizzes will be given weekly. These quizzes will be designed to last less than 10 minutes. They are intended to help you assess your progress and to alert you to any "trouble spots" before you take an exam. **I will drop your lowest TWO quiz scores before determining your quiz average.**

(5) **Homework Assignments**: Homework assignments will consist of problem sets and end of chapter questions from the text. You should attempt the homework problems after completing the reading assignments and working the Your Turn problems (solutions to the Your Turn problems are given immediately following the problem or in Appendix 4). Homework assignments are due at the BEGINNING of class on the due date. **Late homework will not be accepted.** Answer keys will be posted on-line after the assignment has been collected.

I will drop your lowest TWO homework scores before determining your homework average.

Homework will be graded as follows:

- √ + All problems are completed with only minor errors.
- √ All problems are attempted, some errors are present.
- √ - Problems have been skipped, significant errors are present.
- 0 Several problems skipped, little effort is evident, homework copied from another student (both students receive zeros) or homework received late.

Homework is worth a total of 100 points. Point values for homework will be calculated at the end of the semester. *The examples below are provided to give you an idea of how this is done.*

Earn a √ + on every homework: 100/100
Earn a √ on every homework: 85/100
Earn a √ - on every homework: 70/100
Earn a 0 on every homework: 0/100

Your course grade will then be determined as follows:

(a)	Pick your THREE HIGHEST EXAM SCORES and add them	600 points
(b)	Add in your Letter score	200 points
(c)	Add in your quiz average	100 points
(d)	Add in your homework average	100 points

Letter grades will be given on the basis of total scores using the following scale:

920 or more=A; 900-919 = A-
880-899=B+; 820-879=B; 800-819=B-
780-799=C+; 720-779=C; 700-719=C-
680-699=D+; 620-679=D; 600-619=D-
599 and below=F

Tentative Course Schedule

Jan 30	Introduction / The Air We Breathe	Ch 1	Survey
Feb 1	The Air We Breathe	Ch 1	Q 1
Feb 6	The Air We Breathe/Protecting the Ozone Layer	Ch 1/2	HW 1 due
Feb 8	Protecting the Ozone Layer	Ch 2	Q 2
Feb 13	Protecting the Ozone Layer	Ch 2	HW 2 due
Feb 15	The Chemistry of Global Warming	Ch 3	Q 3
Feb 20	The Chemistry of Global Warming (Review)	Ch 3	HW 3 due
Feb 22	**Exam 1** (Ch 1, 2, and 3)		E 1
Feb 27	The Chemistry of Global Warming	Ch 3	
Mar 1	The Chemistry of Global Warming	Ch 3	Q 4
Mar 6	The Water We Drink	Ch 5	HW 4 due
Mar 8	The Water We Drink	Ch 5	Q 5
Mar 13	The Water We Drink	Ch 5	HW 5 due
Mar 15	Neutralizing the Threat of Acid Rain	Ch 6	Q 6
(March 20 + 22 – no class, Spring Break)			
Mar 27	Neutralizing the Threat of Acid Rain	Ch 6	HW 6 due
Mar 29	Neutralizing the Threat of Acid Rain	Ch 6	Q 7
Apr 3	Neutralizing the Threat of Acid Rain (Review)	Ch 6	HW 6 due
Apr 5	**Exam 2** (Ch 3, 5, and 6)		E 2
Apr 10	Energy, Chemistry and Society	Ch 4	
Apr 12	Energy, Chemistry and Society	Ch 4	Q 8
Apr 17	Energy, Chemistry and Society	Ch 4	HW 7 due
Apr 19	The Fires of Nuclear Fission	Ch 7	Q 9
Apr 24	The Fires of Nuclear Fission	Ch 7	HW 8 due
Apr 26	The Fires of Nuclear Fission (Review)	Ch 7	Letter due
May 1	Energy From Electron Transfer	Ch 8	HW 9 due
May 3	Energy From Electron Transfer	Ch 8	Q 10
May 8	Energy From Electron Transfer (Review)	Ch 8	HW 10 due
May 10	**Exam 3** (Ch 4, 7, and 8)		E3
May 15	Review and Wrap-up		