CHM 535 Atmospheric Chemistry and Climate Change
Course Syllabus
(subject to revision)
Winter Semester 2008

3 Credit Hours
Tuesday and Thursday, 5:30pm-7:17pm
Room 237 Dodge Hall of Engineering

Professor: Dr. Kimberly Hill Edwards
Office: 285 Science and Engineering Building (SEB)
Mailbox: 264 SEB under name Hill Edwards
Office phone: (248) 370-4064
E-mail Address: hilledwa@oakland.edu
Office Hours: At scheduled times or by appointment
   Monday  10:00am – 12:00pm
   Tuesday 1:00pm – 3:00pm
   Wednesday 12:30pm – 2:30pm
   Thursday 2:00pm – 4:00pm

Course Description: We will discuss the physical and chemical structure and processes of the Earth’s atmosphere and how natural emissions from plants and oceans as well as human activities influence atmospheric composition. The course will include most of the topics listed below. Throughout, I will bring in special topics and journal articles relating to climate change and how atmospheric composition and processes are likely to change as the planet warms as well as any current events or topics that show up in the news.

Required Text:

    Introduction to Atmospheric Chemistry by Daniel J. Jacobs, Princeton University Press,

Other Helpful Texts that are on Course Reserve in the Library:
    Atmospheric Chemistry and Physics by John H. Seinfeld, John Wiley & Sons, Inc.

Tentative List of Topics:

    Physical and Chemical Structure of the Atmosphere
    Radiation Balance and the “greenhouse effect”
    Photochemistry and Kinetics (including atmospheric radicals and tropospheric ozone)
    Oxidation of carbon, nitrogen, and sulfur species
    Removal processes for atmospheric species
    Biogenic volatile organic compounds
    Aerosols and Heterogeneous Chemistry
    Cloud chemistry and processing
    Atmospheric Evidence of Climate Change
Assignments, Exams, and Grading

1. Homework
   3 problem sets worth approximately 50 points each and maybe 1-2 article summaries worth 20 points each

2. Exams
   Three exams worth approximately 100 points each

3. Semester project
   There are many topics that we will not have time to cover in the class. Instead of a final exam, each student will write a 6-8 page paper on a topic of their choice relating to atmospheric chemistry and/or climate change and give a 15 minute presentation to the class on the topic. All topics must be pre-approved by the instructor. Papers are due on the last day of class. Presentations will be given on the last day of class and the time of the final exam. More detail will be given later in the semester. This will be worth approximately 60 points.

4. Grading
   All grades will be posted on Moodle. At the end of the semester, I will take the maximum points earned by the top student in the class and this will be considered a grade of 4.0 or 100%. The rest of the grades will be as follows: 90-100% will be an A (3.5-4.0), 80-89% a B (3.0-3.4), 70-79% a C (2.0-2.9), and 60-69% a D (1.0-1.9).

Course Policies and Procedures

A. Cell Phones and Laptops

   Cell phones are to be turned off during the class period. You may not leave the classroom to answer phone calls and return. Laptops may only be used for taking notes. Surfing the Internet, instant messaging, and watching movies is not permitted during class time. During exams, you may not use your cell phone as a calculator. You must have a real calculator.

B. Website

   There is a website for this course. You will be required to use the site. Assignments will be available only on the web site. You may use the "Discussion" board to post questions and to receive answers.

   Instructions for accessing the site are online at the orientation site: [www2.oakland.edu/elis/WSO_login.cfm](http://www2.oakland.edu/elis/WSO_login.cfm)
   The web site address (URL) is: [https://moodle.oakland.edu/moodle/login/index.php](https://moodle.oakland.edu/moodle/login/index.php)

   To login to Moodle, you will use your OU computer account (OUCA) username and password

   The course syllabus is posted. Due dates for assignments and exam dates will be announced in class and posted on the calendar of the website. The assignments will be posted in the assignment area. Each graded item will appear in the “Grades” section of the site. You will be able to check your grades for each of the exams and assignments on the Moodle site.
C. **Make-up Policy and Late Assignments**

Make-up exams will be given only under circumstances of excused absences. Should you miss an exam for non-legitimate reasons, you will receive a grade of zero on the missed examination. If you are too sick to take an exam, you MUST provide a doctor's note or other evidence that you visited a medical professional. If you miss an examination for a legitimate reason, a date and time for the make up exam must be scheduled as soon as possible. If you turn in homework assignments late, there will be a grade penalty of 10% each day the assignment is late.

D. **Class Attendance**

It is imperative that you avoid missing classes. All of the content covered in class or in the assigned homework is important, and any of it could be the subject of an exam question. Lectures will be a combination of PowerPoint and chalkboard calculations. The PowerPoint presentations will be made available on the Moodle site but the chalkboard part will not be reproduced on the website.

E. **Academic Conduct**

Classroom Courtesy: The instructor of this course has a strong commitment to the development and maintenance of an instructional climate that supports respect for everyone in the classroom. Your enrollment in this course requires that you will treat your fellow classmates and course instructor with respect. This includes sleeping during class. If you are too tired to stay awake, please do not come to class. The instructor reserves the right to adjust course grades for disrespectful behavior.

Cheating: The University’s regulations that relate to academic misconduct will be fully enforced. Any student suspected of cheating by copying on exams, changing answers on exams after they are scored, having another person take an exam, obtaining exam questions prior to the exam time, plagiarism, or by other means will be referred to the Academic Conduct Committee. Students found guilty of academic misconduct face punishments as severe as suspension or permanent dismissal. OU subscribes to a search service for identification of plagiarized material (TurnItIn.com). Your end of semester paper must be submitted to this service. Anyone found by the Academic Conduct Committee to be guilty of misconduct will also receive a 0.0 grade for the course from the instructor in addition to whatever sanction(s) the Committee decides.

F. **Special Considerations**

Students who may require special considerations should work with Disabilities Support Services and the instructor to arrange accommodation.