

Chemistry 205
Environmental Chemistry
Spring 2010

Instructor: Professor Stephen Dunham
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Lecture: M, W, F 8:55-9:45, 207 Collier

Lab: R 12:45-3:45, 207 Collier

Office Hrs: Posted each week on Blackboard, or by appointment.

Required Materials:

Text: Environmental Chemistry, 4th Edition by Colin Baird & Michael Cann (2008), W.H. Freeman.

Scientific Calculator: Must be able to calculate logs

Black Board Web Site: <http://blackboard.moravian.edu/>

You must enroll in the Chemistry 205 blackboard site.

- Throughout the semester, all handouts will be posted to the course blackboard page.

Lab Goggles: Safety glasses will be provided. They must be worn at all times in the laboratory!

Course Goals:

- Further develop principles, theories, and methods learned in General Chemistry to address chemical questions specific to the atmosphere, hydrosphere, and biosphere.
- Obtain hands on experience with instrumentation and analytical techniques
- Learn to critical review scientific studies of the environment
- Prepare and present an in-depth literature study on a specialized topic in Environmental Chemistry

Attendance: This course requires your participation! Moravian's policy on attendance is available at <http://www.moravian.edu/studentLife/handbook/academic/academic.html>. If you anticipate an unavoidable absence, please notify me ASAP before you are absent.

Academic Honesty: Please be familiar with the college policy on academic honesty <http://www.moravian.edu/studentLife/handbook/academic/academic2.html>. Because this course involves small group learning activities, each student is encouraged to exchange and share information with classmates. However, any work submitted in your name is to be your work alone.

Learning Differences: Students should contact the Office of Learning Services for disclosure of a learning difference and to request appropriate amendments to this course <http://www.moravian.edu/studentLife/handbook/academic/academic4.html>.

Grading: You are not in competition with anyone else in this class. Your grade will be determined only by the percentage of the total points you achieve. In the event that the class average on any graded activity falls below 75%, that score will be curved so that the class average is 75%.

Percentage Based Grading Scale

97-100	A !	83-86	B	70-72	C-
93-96	A	80-82	B-	67-69	D+
90-92	A-	77-79	C+	63-66	D
87-89	B+	73-76	C	60-62	D-
				< 60	F

There are a total of 1000 pts that will be factored into your final grade in this course. All points count the same amount.

Three Exams	400 pts
10-Assignments	250 pts
10-Labs	250 pts
<u>1-Presentation and paper</u>	<u>100 pts</u>
Total	1000 pts

Exams: Two in-class (125 pts each) and one final (150 pts)

Exam 1	Friday, February 26
Exam 2	Friday, April 9
Final	Wednesday, May 5

Assignments: These will be assigned throughout the semester and are due one week after being posted (12 total, 25 pts each). The lowest two scores will be dropped at the end of the semester.

Laboratory: Each lab session will have a short write-up or presentation due at the beginning of the following weeks lab period (12 total, 25 pts each). The lowest two scores will be dropped at the end of the semester.

Paper & Presentation: Each student will prepare a literature review paper (5-7 pages) and a (10-15 min) class presentation summarizing a recent peer-reviewed environmental publication. See: http://pubs.acs.org/journals/esthag/index_news.html for examples of recent environmental publications in *Environmental Science and Technology*.

Makeup Quizzes, Labs, and Exams: Missed labs will be counted as one of the “dropped” scores. You are responsible for understanding the content of the material covered during a missed lab. Makeup exams will be given at the discretion of the instructor for absences that have been documented by the Dean of Students Office and/or a health professional.

Class Etiquette:

- Turn off or silence cell phones! NO-text messaging during class
- Do not record or take pictures of classmates or instructors without their permission

Email Etiquette:

Although email may seem like an instantaneous form of communication, it is not. Just because you sent me an email, does not mean that I have

1) read it, 2) understood it, and/or 3) approved it.

- I will reply individually, or as a class response to all email received.
- Assume that email sent between the hours of 9 PM and 9AM has NOT been read

Pace of the Course: The schedule below is a guide for the course coverage this semester.

Week	Beginning	Anticipated Schedule
Jan	18	CH 1-2 Stratospheric Chemistry, The Ozone Hole
Jan	25	CH 2-3 The Chemistry of Ground-Level Air Pollution
Feb	1	CH 4 Env. and Health Conseq. of Polluted Air
Feb	8	CH 6-7 The Greenhouse Effect, Fossil Fuels
Feb	15	CH 8-9 Renewable, Alternative, & Nuclear Energies
Feb	22	CH 10 Pesticides <i>Exam 1, CH 1-9</i>
Mar	1	CH 11-12 Dioxins, & Other Organics
Mar	8	<i>SPRING BREAK</i>
Mar	15	CH 13 Chemistry of Natural Waters
Mar	22	CH 14 The Pollution of Water
Mar	29	CH 14 The Purification of Water <i>Easter Break</i>
April	5	CH 15 Toxic Heavy Metals <i>Exam 2, CH 10-14</i>
April	12	CH 15 Toxic Heavy Metals
April	19	CH 16 Wastes, Soils, and Sediments
April	26	Student Presentations
May	3	Wed, May 5, 1:30 PM <i>Final, CH 15-16 and cumulative</i>