

CHEM 104: Introduction to Environmental Chemistry

Spring 2007

Instructor

Dr. Ryan Casey
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Office Hours: MWF 11:00 – 12:00 AM
Other times by appointment or just
stop in!

Web: www.towson.edu/~racasey. The website will have lecture and laboratory documents and class data that need to be distributed. I will also use the website to post schedule changes that occur due to inclement weather closings, etc.

Schedule

Lecture: MWF 12:00 – 12:50 PM, Smith 524
Lab: Sect 001: M 2:00 – 2:50 PM, Smith 556
M 3:00 – 4:50 PM, Smith 501
Sect 002: W 2:00 – 2:50 PM, Smith 556
W 3:00 – 4:50 PM, Smith 501

Final Exam: 12:30 AM – 2:30 PM, Monday, May 21, 2007

Prerequisite: 3 years of high school math.

Text: None required.

Students are required to purchase a laboratory notebook and goggles for the laboratory portion of the course (details in class).

Grading: Students will be evaluated using a combination of lab reports, exams and problem sets.

Laboratory Reports (variable credit) and Lab Problem Sets (variable credit)	350 points
3 Hour Exams (200 points each)	600 points
3 Homework Sets (50 points each)	150 points
<u>1 Final Exam</u>	<u>300 points</u>
Total	1400 points

Course grades will be based on the following scale: 92-100% = A, 90-91% = A-, 88-89% = B+, 82-87% = B, 80-81% = B-, 78-79% = C+, 70-77% = C, 68-69% = D+; 62-67% = D; 60-61% = D-, < 60% = F. This will be based on points earned out of 1400 points possible for the semester. The number and type of assignments may change during the semester.

Attendance

Attendance in lecture is especially important in this course. We will not be using a textbook, so all of the information will be presented directly through discussion and handouts in the lecture. Exam times will be announced in class and homework will be given out in class. If you don't come to lecture, you're still responsible for the information.

There will be no make-up hour exams. If you must miss an exam for any reason, excused or not, your percentage grade from the final exam will be applied to the missed hour exam. *Where this is helpful:* if you show up for an exam and feel that you are not doing well, *at any time before you turn it in*, you may choose to keep it and not have it graded. However, once the exam is turned in, it cannot be taken back. While this policy allows you in theory to have the final exam count for 64% of your course grade, I wouldn't recommend it. The best bet is still to learn the material as you go along and take each exam like you mean it!

Attendance is required in the laboratory. Each student may make up **one** laboratory if there is a legitimate reason for missing the scheduled session. Any additional make up sessions will require written documentation. Keep in mind that make-ups present a significant logistical problem for your completion of the lab because you will not be able to use a partner and the necessary materials may not still be in the lab.

Homework Sets

You need to practice this material to learn it. The more you practice, the better you will understand it (and the better you will perform on exams). Problem sets will be collected at the beginning of the class period in which they are due, and then returned promptly so that you can gauge how well you understand the material. You may work in groups for the homework, but **the work that you turn in must be your own.** Keep in mind that you should understand what you are turning in. Used properly, group work can help you to learn this stuff! Homework turned in late will be penalized 2 points (out of 50 possible) for each day late. No homework will be accepted after the assignment has been returned to the class.

Laboratory

Melissa Malone, a graduate student in Environmental Science, will teach the laboratory portion of this course. She will provide detailed policies on the lab at your first meeting.

Honor Code

Any instance of plagiarism or cheating will result in a zero for the assignment. Any additional instances of plagiarism will result in a grade of "F" for the course. Letters detailing the specifics of the occurrence will be kept on file by the University for seven years. Details of the University Academic Integrity Policy are in the catalog. You will be required to sign an honor statement for all exams stating that you have neither given nor received unauthorized aid on the exam. It is acceptable and encouraged for you to work in groups on homework assignments to be turned in for the lecture, however the work that you turn in must be your own (you can get help from others, but you may not copy from others). Please contact me if you have any questions regarding acceptable academic conduct.

Schedule

The topics, dates and exam times on this schedule are approximate and are subject to modification.

Week	Topic
1	Background to environmental issues Atomic theory, periodic table, bonding
2	Nomenclature Polarity, intermolecular forces
3	Environmental partitioning Persistent organic pollutants
4	Bioaccumulation/Biomagnification Global distillation theory
5	Toxicology Types of toxicants
6	Properties of water Constituents of natural waters
7	Contamination of water with metals/trace elements Redox chemistry
8	Nitrogen cycle: implications for Chesapeake Bay
9	Phosphorus cycle Sorption phenomena
10	Air pollution Industrial smog, photochemical smog, acid rain
11	Stratospheric ozone depletion
12	Air pollution Global climate change
13	Current Issues
14	Current Issues