

Chemistry 112

Chemistry for Citizens

Fall 2011

Instructor:

Julie T. Millard, Dorros Professor of Life Sciences
Keyes 304, x5757; jtmillar@colby.edu

Office Hours:

Professor Millard will announce her office hours weekly. Please do not hesitate to make an appointment if you cannot make the scheduled times. Email is also a very convenient way to receive a quick answer to a question.

Course Goals:

Students will develop an appreciation of basic chemical principles and their applications to topics of current concern to society, such as health and consumerism. Learning goals include obtaining a base of knowledge about chemistry and the ability to relate this knowledge to everyday life while improving problem-solving, critical-thinking, quantitative analysis, and communication skills.

Readings:

- The required text is *Adventures in Chemistry* by Julie T. Millard (published by Houghton Mifflin).
- Crucial information about the course, including sample exam questions and supplemental material, can be found at the CH112 Web page, accessed either through the CH112 link on the Chemistry Courses Web page or directly at <http://www.colby.edu/chemistry/CH112/CH112.html>

Attendance:

Attendance at every class meeting is expected. Excessive unexcused absences may result in a reduction of your grade. Please note that only your instructor can determine what is an excused absence. The Chemistry Department policy on attendance is available on the Chemistry Web pages.

Grading:

Your grade for CH 112 will be based on the following components.

- **Hour Exam 1-** The first in-class hour exam will be on Friday, October 7.
- **Hour Exam 2-** The second in-class hour exam will be on Friday, November 18.

There are no make-up exams. Please note these dates and plan accordingly. If you miss an exam for a medical/psychological reason, you must ask your health care professional to communicate with Prof. Millard. Some students may have approval from the Dean of Students' Office for time extensions on exams, in which case you must make arrangements with Prof. Millard for an appropriate time extension well before the first exam.

- **Final Exam-** The final exam will be scheduled by the Registrar. Note that the CH112 final exam is cumulative.
- **Quizzes-** There will be a weekly quiz each Friday. ***The quizzes are intended only to encourage “keeping up” and are not representative of the difficulty of the exams.*** There are no make-up quizzes. In the event of an excused absence (such as an illness confirmed by the Health Center *prior to class time*), you will not be penalized for the missed quiz. Furthermore, the lowest quiz grade will be dropped.
- **In-Class Presentation-** The last few class meetings will be dedicated to student presentations on molecules of your choice pertinent to our class discussions. Pairs of students will choose a molecule and prepare a **10-minute** Powerpoint presentation on its chemistry, use, and importance. You may choose your partner as soon as you'd like, or Professor Millard can assign you to a partner if you'd prefer. These talks should comprise about eight slides and contain: a) an introduction to the molecule (structure and historical overview); b) how the chemistry of the molecule relates to its function; c) the importance of this molecule to everyday life. *You must load your presentation onto the lecture-hall computer before class.* Groups that do not have their presentations loaded onto the computer ahead of time and ready to go at the start of class will be penalized. Please be aware that you must be careful not to exceed the time limit; if you do so, you may be cut off prematurely so that we have time for all scheduled presentations.
- **Class Participation-** You are expected to come to class each day prepared, engaged, and ready to participate.

Your final grade will be determined as follows:

Hour Exam 1	20%
Hour Exam 2	22%
Final Exam	25%
Quizzes	23%
Presentation	5%
Participation	5%

Intellectual Responsibility:

Any work that you submit for CH112 is to be your work alone. For more information about the College's policy on academic honesty see the Student Handbook. The Chemistry Department's policy is available at http://www.colby.edu/chemistry/Attend_Exam.html.

Lecture Topics:

The order of topics with the appropriate reading assignments is given below:

<u>Lecture Topic</u>	<u>Reading in <i>Adventures in Chemistry</i></u>
Matter, Atoms, and Compounds	CH 1, Appendix
Chemical Bonds	CH 2
Chemical Reactions	CH 3
Properties of Solutions	CH 4
Energy and Chemical Reactions	CH 5
Molecules of Life	CH 8
Chemistry and Crime	CH 16
Chemistry and Food	CH 9
Chemistry and the Gym	CH 10
Special Topics	To be selected by the class

Tips for Success in CH112:

Just because this is a course designed for non-scientists, don't expect it to require little effort. Even if you had prior experience with chemistry (which we don't expect), we will be covering many unique topics that you have not had before. Furthermore, we emphasize an integrated approach to chemistry very different from other chemistry courses. We have designed CH112 to be fun and interesting, but also challenging. In order to be successful, you will need to do more than simply show up for class. Chemistry is similar to playing a musical instrument or playing a sport. The more you practice, the better you will be.

It is important to keep up with the material, because later chapters build on earlier ones. You should read each chapter very carefully, take notes on important points, and also complete all practice exercises. Although these will not be collected, similar problems will appear on the quizzes and exams. Sample exam questions can be found on the course Webpage.

Extra Help

Please see Professor Millard as soon as possible if you have any questions about the course material or your lab instructor for questions about the laboratory. Help is also available at the Chemistry Help Center, staffed by experienced and knowledgeable chemistry majors, which is open four evenings per week in Keyes 104 (M-Th, 7:30-9:30). These students will be happy to answer questions and help with problems. If you feel the need for further help, tutors are available through Lisa Miller (lmmiller@colby.edu).