

# General Chemistry I

**Instructor:** Christopher M. Bender

**Phone:** 503-5755

**e-mail:** cbender@uscupstate.edu

**Office:** Smith 415

**Web page:** <http://faculty.uscupstate.edu/cbender>

**Office hours:** MWF 9:00 am-10:30 am, T 11:00-noon, and by appointment

**Class times:** MWF 11:00-11:50 in Smith 319

MWF 12:00-12:50 in Smith 319

TTh 9:25-10:40 in Smith 319



**Required books:** *Chemistry, Fifth Edition* by McMurry and Fay (Prentice Hall, 2008)  
*Chemistry 111 Lab Manual* (Revised for [Fall 2010](#))

**Internet resources:** A web site at: [http://wps.prenhall.com/esm\\_mcmurry\\_chemistry\\_5/](http://wps.prenhall.com/esm_mcmurry_chemistry_5/)  
is available with additional problems, tutorials, and more. **IT IS FREE--USE IT!!**

**Course Description:** General Chemistry I (4 semester hours) has a prereq or coreq of Math 121 or higher. It is *strongly* advised that if you do not have the skills needed in algebra, acquire those first, then take this course. This course is intended for students planning careers in science, engineering, medicine, or who plan to take CHM 112 or higher. **A required lab and recitation are additions to this course. You must be registered for lecture, lab, and recitation.**

**Course Objectives:** By the end of the semester, the successful CHM 111 student will be able to

- understand and explain basic atomic theory of matter
- understand, explain, and identify principles of bonding and molecular structure
- balance chemical equations, including redox equations
- calculate stoichiometric quantities related to chemical reactions and formulas
- identify atomic trends
- understand and calculate changes in energy dealing with chemical reactions (thermochemistry)
- predict how gases are affected by physical parameters (pressure, temperature, volume, etc.)
- appreciate the role of chemistry in everyday life

## Student Accountability

**Academic Honor Code:** Section II.B. Cheating. Though a nearly ubiquitous problem on college campuses around the country, cheating will not be tolerated in any form. Please pay particular attention to all parts in the student handbook. These are listed on the back of this syllabus. Students found to be cheating will be referred to the Dean of Students for appropriate sanctions. This action could result in the expulsion from class with a failing grade. Students who admit responsibility or who are found responsible through the Student Code of Conduct will receive the appropriate grade determined by the professor, which may include an X to signify academic dishonesty. Grades with an X are not subject to grade forgiveness.

**Attendance:** There is no grade for attendance, however **IF** you miss a lecture (a highly discouraged act), YOU are responsible for all lecture notes, assignments, and graded work. Attendance for exams is mandatory. If you miss one exam, your final exam grade will count in place of the missed exam. If you miss additional exams, you will receive zeros for those exam grades.

**Exams:** There will be three major exams and one cumulative final exam in this course. The cumulative final exam will replace your lowest exam score, if it is higher. This substitution will occur for only **one** exam. You may not leave the exam area until you are done with the test (i.e., no bathroom breaks are permitted, including during the final exam).

**Class Disruptions:** Disruptive talking or behavior (including frequently ringing cell phones) in class is against university policy and could be subject to penalty. Please be courteous to other students' desire to learn.

**Homework:** Passively reading the assigned chapters is not satisfactory for learning chemistry. PRACTICE is absolutely necessary...and LOTS of it!! Homework will be assigned from problems at the end of each chapter, however they will not be collected. This puts the burden on YOU to do them.

**Lecture Quizzes:** Weekly quizzes are given during lecture to make sure you keep up with the material. Expect both announced and “pop” quizzes covering the lecture material. Most of these will be very short and will be given within the first few minutes of class. If you miss a quiz, it will count as a zero. **There is no make-up for these—please do not be late to class since you may end up missing a quiz.** These quizzes are in addition to any quizzes from lab. If you are on an academic or athletic team and your schedule conflicts with a lecture quiz, notify me in advance and you will be allowed to take the quiz early.

**Laboratory:** As noted above, you are required to take the laboratory component of this course. The grade from the laboratory will be incorporated into the lecture grade as noted in the table (25%).

**Grades:** Points will be distributed as follows:

Major Exams	45%
Lab Grade	25%
Lecture Quizzes	15%
Final Exam (cumulative)	15%

The grading scale is as follows:

A	90-100
B+/B	87-89/80-86
C+/C	77-79/70-76
D+/D	67-69/60-66
F	≤ 59

**Auditing a course:** After the initial drop period of the semester, students will not be able to switch class standing to an audit (for lecture or for lab).

**Important University-wide Dates:**

- August 19 (Thursday)—Classes Start
- September 6 (Monday)—Labor Day (no classes)
- October 14-15 (Thursday-Friday)—Fall Break (no classes)
- October 28 (Thursday)—Last day to withdraw without penalty
- November 2 (Tuesday)—Election Day (no classes—go VOTE!!)
- November 24-28 (Wednesday-Sunday)—Thanksgiving Break (no classes)
- December 3 (Friday)—Last day of classes (classes ARE held)
- Final Exam Schedule: Section 1: (MWF 11:00-11:50): December 6 (Monday) 11:30-2:30
- Section 2: (MWF 12:00-12:50): December 8 (Wednesday) 11:30-2:30
- Section 3: (TTh 9:25-10:40): December 7 (Tuesday): 8:00-11:00

**The Final Exam is cumulative.**

From the Student Handbook 2008-9 (page 129): Section III.B Cheating

The following (1-5) are definitions of cheating as defined by the student handbook.

1. Any conduct during a program, course, quiz, or examination that involves the unauthorized use of written or oral information, or information obtained by any other means of communication.
2. The buying, selling, sharing of questions or theft of any examination or quiz prior to its administration.
3. The unauthorized use of any electronic or mechanical device during any program, course, quiz, or examination or in connection with laboratory reports or other materials related to academic performance.
4. The unauthorized use of notes, laboratory reports, term papers, theses and written materials in whole or in part.
5. The unauthorized collaboration on any test, assignment, or project.

I consider information (formulas, notes, examples, etc.) stored on your calculator to be in violation of academic integrity if used during an exam or quiz. Please be sure this type of information is not found on your calculator while taking a test or quiz.

**Students with disabilities:** In keeping with University policy, any student with a disability who requests academic accommodations should contact Disability Services at 503-5199 to arrange a confidential appointment with the Disability Services Coordinator. Students are encouraged to seek an appointment as early in the semester as possible, as accommodations are not provided retroactively. Letters of accommodation must be signed and printed on letterhead from the Disability Services office. It is the student’s responsibility to provide these letters to professors in a timely manner so that accommodations may be put in place.

**Disclaimer:** The instructor reserves the right to make adjustments in this syllabus as necessary.

## Homework assignments

In this class, the only way to thoroughly learn the material is to *practice, practice, practice*...thus, there's homework. If you do not do the homework, you will not pass the course, it's as simple as that. For all even numbered questions the answers are in the back of the book. For odd numbered problems assigned (key concept, section, chapter, and multi-concept problems) for which the answers are not in the back of the book, an answer key will be on reserve in the library.

Chap. 1: Problems and Exercises: 1-27, 29-35, 40-46, 48-49, 51, 53-54, 56-83, 86-103, 105-109, 110abc, 111

Chap. 2: Problems and Exercises: 2-28, 30-33, 40-48, 50-74, 76-95, 98-100, 103-104, 106-109, 111, 114a, 115-116

Chap. 3: Problems and Exercises: 1-29, 32-98, 104-111, 113-118, 122-126

Chap. 4: Problems and Exercises: 1-14, 16, 20-23, 25-26, 30-51, 54-57, 60-96, 99-102, 104-107, 109-110

Chap. 5: Problems and Exercises: 1-8, 16, 18-21, 25-26, 28, 30, 32-39, 46, 49-52, 55-56, 68-81, 84-87, 90, 93-94, 96, 98-100, 104-105, 111, 115

Chap. 6: Problems and Exercises: 1-8, 14-15, 23-24, 27-28, 29ab, 30-32, 36-46, 48-49, 57, 92-93, 109abd, 110acd

Chap. 7: Problems and Exercises: 1-25, 31-34, 36-45, 47-82, 84-89, 94-98, 100-104, 110-113, 116-117, 120, 122ab

Chap. 8: Problems and Exercises: 1-2, 8-14, 18-20, 36-39, 42-43, 50-55, 58-79, 89-99, 103a, 104, 106-107, 109, 112, 114-116, 117ab, 118-121

Chap. 9: Problems and Exercises: 1, 6-21, 27-30, 34, 36-39, 44-64, 66-96, 100-101, 103, 105-106, 108, 110-114, 116, 120

Chap. 10: Problems and Exercises: 2-6, 17-18, 26, 32-43, 46-55, 84-91, 96, 98, 116

## Tentative Schedule for CHM 111 section 1 & 2

(will be modified as needed)

Monday	Wednesday	Friday
August 16 N/A	August 18 N/A	August 20 Chapter 1
August 23 Chapter 1	August 25 Chapter 1	August 27 Chapter 1
August 30 Chapter 2	September 1 Chapter 2	September 3 Chapter 2
September 6 <i>Labor Day (no class)</i>	September 8 Chapter 2	September 10 Chapter 2
September 13 Chapter 5	September 15 Chapter 5	September 17 Chapter 5
September 20 Chapter 5	September 22 <b>Exam #1 Ch 1,2,5</b>	September 24 Chapter 5
September 27 Chapter 6	September 29 Chapter 6 & 3	October 1 Chapter 3
October 4 Chapter 3	October 6 Chapter 3	October 8 Chapter 3
October 11 Chapter 3	October 13 Chapter 4	October 15 <i>Fall break (no class)</i>
October 18 Chapter 4	October 20 <b>Exam #2 Ch 3, 4, 5, 6</b>	October 22 Chapter 4
October 25 Chapter 4	October 27 Chapter 7	October 29 Chapter 7
<b><i>Last Day to Withdraw is Thursday Oct. 28</i></b>		
November 1 Chapter 7	November 3 Chapter 7	November 5 Chapter 8
November 8 Chapter 8	November 10 Chapter 8	November 12 Chapter 8 & 10
November 15 Chapter 10	November 17 Chapter 10 & 9	November 19 Chapter 9
November 22 <b>Exam #3 Ch 4, 7, 8</b>	November 24 <i>Thanksgiving break</i>	November 26 <i>Thanksgiving break</i>
November 29 Chapter 9	December 1 Chapter 9	December 3 Chapter 9 <i>Last day of classes</i>
December 6 <b>Cumulative Final Section 1 Exam 11:30-2:30</b>	December 8 <b>Cumulative Final Section 2 Exam 11:30-2:30</b>	December 10

## Tentative Schedule for CHM 111 section 3

(will be modified as needed)

Tuesday	Thursday
August 17 N/A	August 19 Chapter 1
August 24 Chapter 1	August 26 Chapter 1 & 2
August 31 Chapter 2	September 2 Chapter 2
September 7 Chapter 2	September 9 Chapter 2
September 14 Chapter 5	September 16 Chapter 5
September 21 <b>Exam 1 Ch 1 &amp; 2</b>	September 23 Chapter 5
September 28 Chapter 5 & 6	September 30 Chapter 3 & 6
October 5 Chapter 3	October 7 Chapter 3
October 12 Chapter 3 & 4	October 14 <i>Fall break (no class)</i>
October 19 Chapter 4	October 21 <b>Exam#2 Ch 3, 5, 6</b>
October 26 Chapter 4	October 28 Chapter 4 & 7
<b><i>Last Day to Withdraw is Thursday Oct 28</i></b>	
November 2 <b><i>Election Day—no class, go VOTE</i></b>	November 4 Chapter 7
November 9 Chapter 7 & 8	November 11 Chapter 8
November 16 Chapter 10	November 18 Chapter 10
November 23 <b>Exam #3 Ch 4, 7, 8</b>	November 25 <i>Thanksgiving break</i>
November 30 Chapter 9	December 2 Chapter 9
December 7 <b>Cumulative Final Section 3 Exam 8:00-11:00</b>	December 9 <b><i>Study for your other classes!!</i></b>