

CHEM112

COLLEGE CHEMISTRY

A. Course Objective and Student Conduct

This course is designed primarily for students planning to major in some science discipline. It, in conjunction with the preceding course, CHEM111, will give the successful student a good foundation in the basic concepts in chemistry and prepare them for taking additional chemistry courses such as Organic Chemistry, Biochemistry, and Physical Chemistry.

Students in this course are expected to demonstrate academic honesty in all work. This requires that students know and adhere to the Boise State University Student Code of Conduct which can be found on the course website (See B.3 below).

B. Text, Instructor, and Web Information

1. Text

Chemistry, 9th Ed. by Raymond Chang

2. Instructor

Name: Dr. Gary D. Mercer Office: BSUW312C (West Campus) and SN319 (Boise Campus)

Telephone: 208-562-2189 (West Campus) or 208-426-3481 (Boise Campus) or
208-336-3094 (h)

E-Mail Address: gmerc@chem.boisestate.edu

Office Hours: M - 11:00 am - 12:30 pm (Probably Boise Campus but call ahead to be sure.)
 TuWTh - 11:00 am - 12:00 noon (West Campus)
 All Other Times - whenever my door is open or by appointment.

3. Course Website

- a. The course website can be accessed using the address, **blackboard.boisestate.edu** (note there is no "www." at the beginning of this address).
- b. During the first week of classes, students are expected to begin monitoring their BroncoMail account or go to the BroncoMail website and set it up so that mail sent to BroncoMail is forwarded to an active email address that is monitored regularly. Instructions for forwarding BroncoMail can be found at: **helpdesk.boisestate.edu/students/broncomail/using_broncomail.shtml**

<p>Note: Failure to provide a current working email address that you monitor frequently could lead to missing important information. Such failed communications are <u>not</u> the responsibility of the instructor.</p>

- c. Students are expected to access this website on a daily basis for current information such as course syllabus, announcements, practice assessments, lecture notes, etc.

- d. Items listed in the Schedule at the end of this Syllabus will be posted to the website without an Announcement. Other items not listed will be posted with an Announcement to alert students to their presence and how to find them.
- e. If an item should be posted (available) but you cannot find it, please let me know as I may have forgotten to take care of it. Allow me a few hours grace time before calling or sending an email message.
- f. If you wish to check your grades or view an old quiz, you may use the following procedure: (1) Click on the **Tools** button; (2) Click on **My Grades**; and then if you wish to view the quiz or exam (3) Click on the score of the desired exam or quiz. The quiz or exam will be displayed showing the questions, how you answered each question, whether it was right or wrong, and the correct answer if you answered it incorrectly.

C. Important University Dates

January 29th - Last day to add a class, drop a class without a "W" appearing on the transcript, or change from audit to credit or credit to audit.

February 27th - Last day to drop a class or to completely withdraw from all classes.

D. Prerequisite

This course has a chemistry prerequisite of CHEM111.

E. Attendance

1. Attendance at lectures is not required, however, periodic in-class exercises (generally on the second class day of the week) will be given and credit will only be allowed if an exercise is completed and handed in during the time period allotted to it (see Section H).
2. If you miss a lecture, notes discussed that day may be checked out for a maximum of 1 hour for copying purposes at the instructor's office.
3. Active cell phones are not allowed in class. If you have a cell phone, please be sure that it is either off or in silent mode while you are in class. Students who answer a cell phone call will be asked to leave the classroom and not return during that period.

F. Homework

1. **Non-Credit Homework** - The instructor considers all "Practice Exercises" found within each chapter and the "Questions and Problems" found at the end of the chapter worth looking at. These questions and problems should be used in conjunction with the Practice Quizzes (see H.1 below) to attain competency in a section of material.
2. Answers to all "Practice Exercises" are found at the end of each chapter and answers to the even numbered "Questions and Problems" are found in the back of the textbook (starting on page AP-1).

3. **Credit Homework** - (8 @ 10 points each) - This homework will be distributed, handed-in, and graded on Blackboard. When announced, students will be able to go to Blackboard, download an assignment and work it out. Then at a later announced date, a Blackboard "Quiz" identical to the homework assignment will be made available for a limited time for students to mark their answers. Students must have the assignment completely worked out prior to entering the "Quiz" as the length of time for entry of answers will be limited. Students are expected to do their own work. Copying answers from other students is strictly forbidden (see Student Code of Conduct).

G. Exam & Quiz Structure

1. **Practice Quizzes** - (10 @ 0 points each) - There will be a Practice Quiz created on the course website for each chapter. The Practice Quiz will be made up of 5 questions randomly selected from the question bank for the chapter. These Practice Quizzes will have no point value, will not be timed, can be taken an unlimited number of times from any computer, and will be available until the end of the semester once they are activated.
2. **Midterm Exams** - (4 @ 100 points each) - Exams will be pencil and paper exams. These exams will have a 75-minute time limit. Students will be allowed to use the instructor supplied Useful Information Page on the exam (see Course Website).

Note: If you miss an exam for any reason and it is not made up as described below, the zero will be replaced by the Final Exam score (prorated to 100 pts.).

Note: If an exam is missed, it may be made up within 24 hours of the exam time by contacting the instructor (by phone; email is not acceptable) prior to the exam or before noon of the day of the exam. Note: This contact must be made or a make-up will not be allowed!

Note: No exams or quizzes will be dropped in this course. However, the lowest Midterm Exam score (after zero replacement; see note above) will be replaced by the average of all Midterm Exams.

3. **Final Exam** - The Final Exam has the same rules as the Midterm Exams discussed above except that it will have a 120-minute time limit, will count 120 points, and there are no make-ups. The final exam will be given on Tuesday, May 8th from 1:00 am to 3:00 pm. Everyone must take the final exam; it is not optional.

H. In-Class Exercises

1. Short in-class problems will be given during the last 20 minutes of the Thursday class period. Each assigned problem will be worth 4 points (1 point for turning it in, 2 points for showing work, and 1 point for correct answer). There will be about 14 of these but the maximum allowed accumulation of points will be 40 points.
2. Rules: (a) There will be no make-ups on these. (b) You must be present in class to participate. (c) They will cut-off promptly at the end of the period. (d) You may use notes, textbook, and you may consult with other students but you cannot copy their work.

I. Laboratory

The laboratory component of the course will be discussed in detail in your respective laboratory sections. The total number of points that will be available from the lab is 160 points.

Note: Your laboratory score will be derived from your percentage score in the laboratory as determined by your lab instructor. Thus, if you had an 80% in lab you would receive $160 \times 0.80 = 128$ points toward your final course grade from lab.

Note: Please see your lab syllabus for information about minimal laboratory requirements necessary to pass CHEM111.

J. Grading

1. Grades for the course will be determined from the activities described above (Sections F, G, H, & I).
2. The total number of points possible from the above activities is shown in the table below.

Source	Points	Percentage of Grade
Exams (4)	400	50 %
Homework (8)	80	10 %
In-Class Exercises (max.)	40	5 %
Final Exam	120	15 %
Laboratory	160	20 %
Total	800	100 %

3. The approximate scale by which grades will then be determined is the following:

Grade	Percentage	Points	Grade	Percentage	Points
A	100-88	800-704	D	68-58	543-464
B	88-78	703-624	F	58-00	463-000
C	78-68	623-544			

Note, further breakdown of the grades into pluses and minuses will be made in accord with University policy at the end of the semester.

4. **A special Note About the Lecture Grade:** If a student's Final Exam percentage score is better than their percentage from all exams combined (520 pts. possible) then the final exam score will be used to compute the exam total score by multiplying the final exam percentage (as a decimal fraction so 80% is 0.80) by 520 points. See Example below.

Example: If a student receives a total of 406 points from all exams (overall 78.1%) with a score of 100 points (83.3%) on the Final Exam, that student's exam total (520 pts. possible) will be 433 points (520×0.833) rather than 406 points because of the better performance on the Final Exam.

K. Recommended Study Routine

1. Your first step for each chapter should be to study well all materials (textbook, notes, and chapter questions and problems).
2. After this initial study phase has been completed, take a practice quiz and use the results from the practice session to point out areas of weakness in your knowledge.
3. Restudy the weak areas and then retake the practice quiz.
4. Repeat #2 and #3 above until you have mastered the material which will be indicated by a consistent score of 80% to 100% correct. The student should then be ready to take the actual quiz.
5. Reviewing for an exam should use the above general procedure with the additional consideration of "weaning" yourself away from the use of "open book" materials.
6. Do not attempt to memorize the answers for the questions using the Practice Quizzes and Quizzes by taking them an "infinite" number of times because the question banks are too large for this to be practical. Also, remember that actual printouts of Quizzes or Practice Quizzes are not allowed while taking a Quiz (see G.4 above).

L. Completing Blackboard Based Assignments at Home

1. If you are on a dial-up connection, you should be aware that while you are taking a quiz, there is no communication between your computer and your ISP (internet service provider) from the time you receive the quiz and the time you submit it. Thus, there is always the possibility that you could get "dumped" by the ISP for inactivity. To prevent that, it is recommended that you scroll to the bottom of the quiz and click on **Save** periodically. This will tell your ISP that you are still using the connection. When you are finished with the quiz and wish to have it graded, you should then click on **Submit**.
2. Especially when taking quizzes that count, do not click anywhere outside the quiz window (you may use the scroll bar at the right) during the quiz. No questions require the keyboard for answering them so you are encouraged to also keep your hands away from it. Clicking in the wrong place or hitting a wrong key could cause you to be "dumped" from the exam resulting in a score of zero. It is suggested that you use the Practice Quizzes to probe the "illegal" actions so you will know the limitations when you start taking actual Quizzes.

M. Semester Schedule

Day	Activity
Jan 16 (Tuesday)	Lecture Discussion - Syllabus and Chapter 11
Jan 18 (Thursday)	Lecture Discussion - Chapter 11
Jan 19 (Friday)	BroncMail monitoring provisions completed by 5:00 pm
Jan 23 (Tuesday)	Lecture Discussion - Chapter 11 Chapter 11 Practice Quiz available at 5:00 pm
Jan 25 (Thursday)	Lecture Discussion - Chapter 12
Jan 30 (Tuesday)	Lecture Discussion - Chapter 12
Feb 1 (Thursday)	Lecture Discussion - Chapter 12 Chapter 12 Practice Quiz available at 5:00 pm Chapters 11 & 12 Homework Document available at 5:00 pm
Feb 2 (Friday)	Chapters 11 & 12 Homework Quiz available at 5:00 pm
Feb 5 (Monday)	Chapters 11 & 12 Homework Quiz ends at 9:00 pm
Feb 6 (Tuesday)	Lecture Discussion - Chapter 13
Feb 8 (Thursday)	Exam #1 (Chapters 11 & 12)
Feb 13 (Tuesday)	Lecture Discussion - Chapter 13 Chapter 13 Practice Quiz available at 5:00 pm Chapter 13 Homework Document available at 5:00 pm
Feb 15 (Thursday)	Lecture Discussion - Chapter 14
Feb 16 (Friday)	Chapter 13 Homework Quiz available at 5:00 pm
Feb 19 (Monday)	President's Day - University Holiday
Feb 20 (Tuesday)	Lecture Discussion - Chapter 14 Chapter 13 Homework Quiz ends at 9:00 pm
Feb 22 (Thursday)	Lecture Discussion - Chapter 14 Chapter 14 Homework Document available at 5:00 pm Chapter 14 Practice Quiz available at 5:00 pm
Feb 23 (Friday)	Chapter 14 Homework Quiz available at 5:00 pm
Feb 26 (Monday)	Chapter 14 Homework Quiz ends at 9:00 pm
Feb 27 (Tuesday)	Lecture Discussion - Chapter 15
Mar 1 (Thursday)	Exam #2 (Chapters 13 & 14)
Mar 6 (Tuesday)	Lecture Discussion - Chapter 15 Chapter 15 Homework Document available at 5:00 pm Chapter 15 Practice Quiz available at 5:00 pm
Mar 8 (Thursday)	Lecture Discussion - Chapter 15
Mar 9 (Friday)	Chapter 15 Homework Quiz available at 5:00 pm

Mar 12 (Monday)	Chapter 15 Homework Quiz ends at 9:00 pm
Mar 13 (Tuesday)	Lecture Discussion - Chapter 16
Mar 15 (Thursday)	Lecture Discussion - Chapter 16 Chapter 16 Homework Document available at 5:00 pm Chapter 16 Practice Quiz available at 5:00 pm

Mar 19 (Monday)	Chapter 16 Homework Quiz available at 5:00 pm
Mar 20 (Tuesday)	Lecture Discussion - Chapter 16
Mar 21 (Wednesday)	Chapter 16 Homework Quiz ends at 8:00 am
Mar 22 (Thursday)	Exam #3 (Chapters 15 & 16)

S p r i n g B r e a k

Apr 3 (Tuesday)	Lecture Discussion - Chapter 18
Apr 5 (Thursday)	Lecture Discussion - Chapter 18 Chapter 18 Homework Document available at 5:00 pm Chapter 18 Practice Quiz available at 5:00 pm
Apr 6 (Friday)	Chapter 18 Homework Quiz available at 5:00 pm

Apr 9 (Monday)	Chapter 18 Homework Quiz ends at 9:00 pm
Apr 10 (Tuesday)	Lecture Discussion - Chapter 19
Apr 12 (Thursday)	Lecture Discussion - Chapter 19 Chapter 19 Homework Document available at 5:00 pm Chapter 19 Practice Quiz available at 5:00 pm
Apr 13 (Friday)	Chapter 19 Homework Quiz available at 5:00 pm

Apr 16 (Monday)	Chapter 19 Homework Quiz ends at 9:00 pm
Apr 17 (Tuesday)	Lecture Discussion - Chapter 23
Apr 19 (Thursday)	Lecture Discussion - Chapter 23 Chapter 23 Homework Document available at 5:00 pm Chapter 23 Practice Quiz available at 5:00 pm
Apr 20 (Friday)	Chapter 23 Homework Quiz available at 5:00 pm

Apr 23 (Monday)	Chapter 23 Homework Quiz ends at 9:00 pm
Apr 24 (Tuesday)	Lecture Discussion - Chapter 22
Apr 26 (Thursday)	Exam #4 (Chapters 18, 19, 23)

May 1 (Tuesday)	Lecture Discussion - Chapter 22
May 3 (Thursday)	Lecture Discussion - Chapter 22 Chapter 22 Practice Quiz available at 5:00 pm

May 8 (Tuesday)	Final Exam (comprehensive) 1:00 - 3:00
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N. Core Learning Outcomes

The following are the Core Learning Outcomes addressed by this course:

Critical Thinking/Problem Solving

Clearly identify and analyze a problem; identify possible solutions.
Employ both qualitative & quantitative methods of reasoning.

Communication Skills

Read, interpret, analyze, and evaluate written discourse.
Write clearly & appropriately for a variety of purposes.
Identify & make appropriate use of information sources in both written & spoken discourse.

Cultural Perspective

None Addressed

Breadth of Knowledge and Intellectual Perspective

Articulate relevant basic assumptions, concepts, theoretical constructs, & factual information.
Understand & apply relevant discipline-specific methodologies & strategies of inquiry.
Apply appropriate critical thinking/problem solving skills in discipline specific context.