

Syllabus for College Chemistry I: Chem 111 / Fall 2006**Instructor Dr. Dee Ann Force**

Office hours: M & F 9:40 – 10:30 AM
T 4:30 – 5:30 PM
W & F 12:40 – 1:30 PM

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Co- and Prerequisites

MATH 143 or MATH 147 (or successful placement on the Compass test) is prerequisite. C111 accompanies the corequisite Laboratory portion of the course (C111L). Completion of a previous chemistry course (high school or college level) is expected.

Required Materials *(available at the BSU Bookstore)*

- Chemistry: A Guided Inquiry (3rd edition) by Richard S. Moog & John J. Farrell; ISBN 0471699411; John Wiley & Sons (2005)
- Chemistry (9th edition) by Raymond Chang; ISBN 0073221031; McGraw-Hill (2006)
- Calculator capable of scientific notation and logarithms

Computer and internet access to the Boise State University Blackboard site is also required. Students are expected to check their BSU email and the Blackboard site daily.

Optional Materials

- Student Solutions Manual to accompany Raymond Chang's "Chemistry" (9th ed.); ISBN 0072980613; McGraw-Hill (2006)

Chemistry 111 Learning Outcomes (Area III requirement in the BSU Core Curriculum)***Critical Thinking/Problem Solving***

- Clearly recognize and solve [chemical] problems using both qualitative/conceptual and quantitative/computational methods
- Construct arguments to support and explain specific characteristics and consequences of [chemical] processes

Communication Skills

- Identify, use, and articulate an understanding of [chemical] information derived from both written and spoken sources
- Develop and utilize speaking, listening, & interpersonal communication skills

Breadth of Knowledge and Intellectual Perspective

- Gain an awareness and understanding of the basic principals and methods used in the field of chemistry
- Apply problem solving skills and communication skills in a chemistry-specific context
- Demonstrate proficiency in the fundamentals of chemistry at a >70 % level, as measured by written exams, homework and laboratory assignments
- Apply these fundamental principles learned in the lecture and laboratory to understand the chemical phenomena observed in the laboratory as well as every day life

Course Policies

Academic Honesty

Students in this course are expected to demonstrate academic honesty in all work. This requires that you know and adhere to the Boise State University Student Code of Conduct, which can be found at <http://www2.boisestate.edu/studentconduct>. In particular, students should note Section 3.1:

Cheating or plagiarism in any form is unacceptable. The University functions to promote the cognitive and psychosocial development of all students. Therefore, all work submitted by a student must represent her/his own ideas, concepts, and current understanding. Academic dishonesty also includes submitting substantial portions of the same academic course work to more than one course for credit without prior permission of the instructor(s).

Cell phone courtesy

Please note that your cell phone should be in silent mode during class; do ALL your cell phone messaging (verbal, text, etc.) outside the classroom.

Course Grading

The course grade will be based on the *higher* score of the following two options:

Option 1

ChemActivities	5%
Online Quizzes	10 %
Large Quizzes	36 %
Group Performance	5 %
Final Exam	24 %
Laboratory	20 %

Option 2

Group Performance	5%
Final Exam	75%
Laboratory	20%

- There will be 4 in-class Large Quizzes, each worth 100 pts; you may drop the lowest score.
- There will be a comprehensive Final Exam worth 200 points.
- Final Exam and Large Quiz dates will not be changed; there will be no make-ups offered.
- The laboratory portion of the course grade will be assigned according to the syllabus for the laboratory course. In order to pass the overall course, no student can miss more than 1 laboratory session.

Letter grades are based on the usual standard scale, with the instructor having the discretion to raise or lower these cut-offs if warranted.

- Your combined lecture and lab scores will determine your final grade, as indicated below; the “plus” and “minus” designations will be at the higher and lower end of the following ranges, respectively.

A+		B+	
A	95 ± 5%	B	85 ± 5%
A-		B-	
C+		D+	
C	75 ± 5%	D	65 ± 5%
C-		D-	
F	< 60%		

Bonus points are added to the end of semester total and will be awarded for the first person finding and reporting each error found in the Moog & Farrell or Chang texts. In order to receive a bonus point, a student must E-MAIL me to point out the error. In some cases, there may need to be a follow-up consultation. (A maximum of 20 bonus points may be accrued.)

Class Structure

Course Format

This course uses a *guided inquiry* approach to teaching and learning chemistry. Class meetings will consist primarily of students **actively engaged in processing and understanding course content**. This format asks that students take more responsibility for their own learning than a traditional lecture format. You will have to determine whether or not you understand material and seek support when you need it. My role as instructor is to guide and support you in the process and offer clarification and examples of relevance when needed. Very occasionally a traditional lecture will be used as part of this course.

Course Content and Use of the Chang Text

We will be using Chang Ch 1-10 content as a guide for this course. The ordering of topics is designed to both coordinate with the Moog & Farrell ChemActivities and provide preparation for laboratory activities. It is suggested that you read chapter material and perform problems to support the ChemActivities we will perform in class.

Attendance and Group Performance

Almost all of the activities in class will involve group work. At the beginning of the course, a group assignment will be made which will last until the first Large Quiz. After that, some group-members may be rotated to better enhance the progression of individual and group learning. Part of your responsibility for this course is to assist the other members of your group in understanding the material. As an individual, you will be given two group performance scores (one at midterm and one at semester-end) based upon how effectively you work with your group to accomplish the goals of the course. Group roles and the logistics of group work are described in the "Group Roles for Chem 111x" handout. The "Group Work Performance Rubric" is used to assess individual performance in the group.

Online Quizzes

One to two times per week of class, a quiz will be made available on the Blackboard course site. The window for its completion will be announced in class. Each quiz will be based on the material covered in class during the previous 1-2 meetings, and on any assigned exercises and problems. You are on your honor to complete the quiz based on your individual work.

Teaching Assistant and Tutoring

Tamara Kelly (8:40 AM; section 002) and Steve Broyles (11:40 AM; section 001) will act as a TA for this course, attending class and assisting with the support of course goals throughout the semester.

In addition to Dr. Force's office hours, there is free tutoring available for this course at the Gateway Center. Hours will be announced when they have been provided. It is strongly recommended that you schedule time each week to see Dr. Force or the tutor about questions you have!

Unless a student requests assistance from the instructor, it will be assumed each student is comfortable with successfully answering quiz questions, material from the Moog text and questions from the Chang text.

The Blackboard Course Site

This course has an on-line component serviced by Blackboard (Bb). The Bb course site will be used to post course documents & grades, as well as for some testing. See <http://blackboard.boisestate.edu/> for further details and important information.

C111- 001 & - 002 Schedule Fall 2006

Monday	T	Wednesday	R	Friday
21-Aug Introduction; Activity 28		23-Aug Activity 28-29		25-Aug Activity 29/ <i>Sig Fig Review</i>
28-Aug Activity 30		30-Aug Activity 31		1-Sep Activity 32
4-Sep Holiday		6-Sep <i>Ions in solution</i>		8-Sep <i>Ionic rxns in solution</i>
11-Sep Activity 1		13-Sep LQ 1		15-Sep Activity 1-2
18-Sep Activity 2		20-Sep Activity 3		22-Sep Activity 3-4
18-Sep Activity 4		20-Sep Activity 5		22-Sep Activity 6
25-Sep Activity 7		27-Sep LQ 2		29-Sep Activity 8
2-Oct Activity 9		4-Oct Activity 10		6-Oct <i>Orbital shapes</i>
9-Oct Activity 11		11-Oct Activity 11-12		13-Oct Activity 12
16-Oct Activity 33		18-Oct LQ 3		20-Oct <i>KMT</i>
23-Oct Activity 34		25-Oct Activity 35		27-Oct Activity 13
30-Oct Activity 14		1-Nov Activity 15		3-Nov Activity 16
6-Nov Activity 17		8-Nov Activity 17		10-Nov <i>MOT</i>
13-Nov Activity 18		15-Nov LQ 4		17-Nov Activity 19
20-Nov Thanksgiving		22-Nov Holiday		24-Nov
27-Nov <i>σ / π bonds</i>		29-Nov Activity 20		1-Dec Activity 21
4-Dec Activity 22		6-Dec Activity 23		8-Dec Activity 24

CLASS SECTION	CLASS TIME	FINAL EXAM DAY	FINAL EXAM TIME
001	MWF 11:40 - 12:30	Thursday, Dec 14	10:30 am - 12:30 pm
002	MWF 8:40 - 9:30	Wednesday, Dec 13	8:00 - 10:00 am

Note: Large Quiz & Final Exam dates will not be changed. Dates for covering the material are approximate. Large Quizzes may be considered cumulative, though they will *focus* on the most recent topics covered.