

8/29/2011

Principles of Chemistry (304-12100-05) Class Syllabus FALL SEMESTER 2011

Time/place: MWF 1:00–1:50 PM in CNS 112 and W 4:00–5:15 PM in CNS 112

Content: Introduction to general theories and principles of chemistry will include, among other topics, overview of the periodic table and properties of the elements, bonding and the quantitative relationships between the elements, chemical reactions and molecular geometry, introduction to spectroscopy. Three hours of lecture and one recitation per week. (4 credits.)
Pre-requisites: High school algebra and high school chemistry with minimum grade of C or 304-10600.

Instructor: Dr. Anna Larsen, CNS 359, Phone: 274-3473, email: alarsen@ithaca.edu

Required Texts and Supplies [Available at the IC Bookstore*]:

- **Textbook:** General Chemistry: Atoms First by McMurry and Fay 1st edition – which includes (required) website **Mastering Chemistry access for homework** and other class materials + (recommended) Solution manual for the end of chapter problems
- **Non-programmable scientific calculator.**
- **Three-ring binder (*portfolio*)** – for keeping all the materials pertaining to this class.

**An email has been sent to everyone in class for alternative sources for the book*

A LOT of class information will be distributed by **EMAIL** to your ithaca.edu account. It is expected that you check your email messages at least **daily**.

Class webpage is here:

<http://www.ithaca.edu/faculty/alarsen/index/PrincChem/PrincChem.html>

Office Hours: Mo, Fri, 2 to 3 pm + By Appointment ; **Teaching assistants:** TBA

Grading: Midterm exams →50% ; final exam→ 20% ; quizzes→ 25% ; homework → 4% ; class participation, portfolio checks, instructor evaluation → up to 1%

One lowest midterm score and one lowest quiz score will be dropped if all the quizzes and midterms were taken. Portfolio checks generally will take place during midterm tests and will be announced in class.

Final Exam DATE (scheduled by registrar): **Monday Dec. 19 1:30 pm - 4 pm, CNS 112**

There will be no make-up exams or quizzes. It is the student's responsibility to notify the instructor if an exam or quiz will be missed due to a verifiable emergency or religious belief in accordance with the Attendance Policy outlined in the Undergraduate Catalog of the current Academic year. In order to satisfy the requirements for the course the student must take the final exam and miss no more than one in-class exam and two in-class quizzes. Students with disabilities should immediately contact the Office of Academic Support Services for Students with Disabilities at <http://www.ithaca.edu/acssd>. *Cheating* on an examination will result in a grade of *F* (failure) for the course. All cases of cheating or plagiarism will be prosecuted. Be aware that students papers can be photocopied at random and the copies retained by the instructor.

Lectures in this course are designed to complement and supplement the textbook. [You are responsible for the assigned reading material in the text whether it is presented in lecture or not.] Please be respectful to the instructor and your classmates during the lecture. If you arrive late or must leave early, do so as quietly as possible and sit in the rear of the classroom. Lecture disturbances, including talking and eating, will not be tolerated. Disruptions from cell phones,

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beepers, laptops, etc will result in removal from lecture. Furthermore, “*disruptive and/or invasive actions using computer systems and networks are strictly prohibited and may result in access to the system resources suspended or revoked by ITS*”, - details at http://www.ithaca.edu/computing/policies/all_campus_use.htm

Class participation and attendance is essential in order to get the most out of this course. You should strive to keep up with the material. If you fall behind, it becomes increasingly difficult to catch up with the class. This means that you should read the chapter in the text as it is covered in lecture (and at least look it over *before* the lecture), review the notes from previous lectures, and work steadily through the assigned homework problems along with the material covered in class (meaning – not in one go on the last afternoon before the assignment is due!).

Recitation period each Wednesday is mandatory and devoted to problem-solving skills development. Brief **quizzes** (~15 minutes) will be given at the recitations. **Midterm exams** will be also held on Wednesdays (unless otherwise stated). Quiz material will focus on the previous weeks lecture topics. Teaching Assistants will be helping during recitations through-out the semester.

Midterm Exams will have some multiple choices, short answer, long answer, and possibly essay questions. There will be four exams which will account for 50% of your final grade. The lowest exam grade will be dropped if all midterms were taken. Mainly the exams will focus on the most recent lecture material, but be aware that most of the topics build on previous concepts.

The Final Exam will be comprehensive over the entire semester accounting for 20% of your total grade. The best way to prepare for the exams is to keep up with the course material. Participate during lecture discussions, prepare for the weekly quizzes, do the recommended homework problems, and ask questions. I am available during scheduled office hrs and at other times (email ahead to make sure I am available if it is not during office hrs).

Study sessions are optional and will be scheduled and run by the Teaching Assistants to accommodate the majority of students in off class hours in ADDITION to the recitations and lectures. (Last year TA study sessions were held on Sunday nights). The study sessions are intended to help clarify ambiguous topics from the class lectures or from the reading. Most of your preparation should be completed before the study session. The attendance of these study session is not mandatory, they are offered as additional help to students who need it.

Assigned problems (a.k.a. “**Homework**”) are aimed to help you master the course material via applying the concepts discussed in the lecture to specific examples. Chemistry is not a spectator sport, so doing the problems is the only way to learn and gauge your progress in this class. [This is also true for any science class you take.] You will access the homework problems via Mastering Chemistry website and submit your answers there. I strongly advise that you begin the homework problem sets as soon as they are assigned. That way the lecture material will end up better organized in your head and you won’t be stuck the last night before the submission cut off. There is no penalty for multiple attempts or using provided website hints on these problems. Hence everyone should be able to get full credit for the homework (4% of your total class grade). There will also be a number of **practice problems** with each chapter – to give you an idea of what the tests questions might look like. These are not graded, but helpful nevertheless.

Class portfolios (three-ring-binder for keeping ALL your class materials) will be checked several times throughout the semester for organization and completeness. File the pages showing all of the worked-out homework problems. Also, keep your graded exams, quizzes and class hand-outs. Start your portfolio by setting up the following clearly marked sections: Lecture Notes, Class Handouts, Worksheets, Homework, Quizzes, Exams, Corrections.

If at any time during the semester you feel that you are falling behind or have any questions or concerns please do not hesitate to contact me for help. I want everyone to succeed.

Last Updated 8/29/2011

Principles of Chemistry Tentative Course Schedule (Fall 2011)

Quiz and Midterm Exam Dates:*

9/7- Quiz 1	10/26 - Quiz 6
9/14 - Quiz 2	11/2- Exam 3 (*)
9/21 - Exam 1 (*)	11/9 - Quiz 7
9/28 - Quiz 3	11/16- Quiz 8
10/5 - Quiz 4	11/23 no class -Thanksgiving break
10/12- - Exam 2 (*)	11/30 - Quiz 9
10/19 - Quiz 5	12/7- Exam 4 (*)

Final exams(is set by registrar, so no date change is possible!) : **Tu, Dec. 19**, 1:30 pm - 4 pm

*However, exact date, time and place for **Midterm exams** are **subject to change** and TBA.

Tentative List of Topics with Corresponding Chapters/Subtopics from the Textbook**

1	Ch 1 Chemistry and Measurement Units, measurements, dimensional analysis	(Half)Week 1 8/31- 9/3
2	Ch 2 Atomic Structure: beginning Atomic masses/numbers, mole definition	Week 2 starting Sun 9/3
3	Ch 3 Electronic Structure and Periodicity Light Waves, Photons, the Bohr Theory Quantum mechanics and Quantum Numbers, Electron Configuration, relation to periodic properties	Week 3 starting Sun 9/10
4	Ch 4 Ionic bonds: Ionization trends in energy, electronic configurations of ions, octet rule, naming ionic compounds,	Week 4 starting Sun 9/17(→ Exam 1)
5	Ch 5 Covalent Bonding Covalent Bonds; Lewis Structures; Naming molecular compounds VSEPR model and molecular geometry Molecular Orbital Theory	Week 5 starting Sun 9/24
6	Ch 6 – Mass Relationships in Chemical reactions chemical equations stoichiometric calculations limiting reactants empirical formula	Week 6 starting 1 Sun 10/1
7	Ch 7 Solutions Ionic theory in aqueous solutions Precipitation; acid-base reactions oxidation-reduction reactions and balancing	Week 7 starting Sun 10/8 (→ Exam 2)
8	Ch 8 Thermochemistry: Energy, Enthalpy; Calorimetry, Hess Law, Heats of Formation, Entropy and Free Energy	(Half)Week 8 starting Sun 10/15 -10/19
9	Ch 9 - Gases	10/20 – 10/22 Fall break ☺
10	Ch 10 - Liquids-Solids and Phase Changes	Week 9 starting Sun 10/22
11	Ch 11 - Solutions: Concentrations and Colligative properties Review/Preview	Week 10 starting Sun 10/29 (→ Exam 3)
		Week 11 starting Sun 11/5
		Week 12 11/19-11/26 Thxgiving break
		Week 13 starting Sun 11/26
		Week 14 starting Sun 12/3(→ Exam 4)
		Week 15 starting Sun 12/10
		Week 16 starting Sun 12/17 -FINALS

**Detailed reading assignments will be given for each new topic

Important Dates : 9/7 - Last day add/drop; 9/9 - Last day for S/D/F (pass/fail) option ;

10/25 - Midterm grades , 11/11 - Last day to withdraw with "W", 12/16-Last day of classes

Dear Student:

In this course you will be using MasteringChemistry[®], an online tutorial and homework program that accompanies your textbook. *If you have joined a MasteringChemistry course before and can still log in:* Save time by following the guide for joining another course (available from www.masteringchemistry.com > Tours & Training > Getting Started) instead of this page.

What You Need:

- ✓ **A valid email address**
- ✓ **A student access code**
(Comes in the Student Access Code Card/Kit that may have been packaged with your new textbook or that may be available separately in your school's bookstore. Otherwise, you can purchase access online at www.masteringchemistry.com.)
- ✓ **The ZIP or other postal code for your school: 14850**
- ✓ **A Course ID: PRINCHEMLARSEN11** (Provided by your instructor)

1. Register

- Go to www.masteringchemistry.com and click **Students** under **Register**.
- To register using the student access code inside the MasteringChemistry Student Access Code Card/Kit, select **Yes, I have an access code**. Click **Continue**.

–OR– *Purchase access online:* Select **No, I need to purchase access online now**. Select your textbook, whether you want access to the eText, and click **Continue**. Follow the on-screen instructions to purchase access using a credit card. The purchase path includes registration, but the process is a bit different from the steps printed here.
- **License Agreement and Privacy Policy:** Click **I Accept** to indicate that you have read and agree to the license agreement and privacy policy.
- Select the appropriate option under "Do you have a Pearson Education account?" Continue to give the requested information until you complete the process. The **Confirmation & Summary** page confirms your registration. This information will also be emailed to you for your records. You can either click **Log In Now** or return to www.masteringchemistry.com later.

2. Log In

- Go to www.masteringchemistry.com.
- Enter your Login Name and Password that you specified during registration and click **Log In**.

3. Join Your Instructor's Online Course and/or Open Self-Study Resources

Upon first login, you'll be asked to do one or more of the following:

- **Join a Course** by entering the **MasteringChemistry Course ID** provided by your instructor. If you don't have a Course ID now, you can return to join the MasteringChemistry course later. When you join a course, you may also be asked for a Student ID (follow on-screen instructions).
- **Explore the Study Area** or **Launch Your eText**, if these resources are available for your textbook.

To Access MasteringChemistry Again Later

Simply go to www.masteringchemistry.com, enter your Login Name and Password, and click **Log In**.

After you have joined a course: You can open any assignments from the **Assignments Due Soon** area or from the **Assignments** page. For self-study, click **eText** or **Study Area**, if these options are available.

Support

Access Customer Support at <http://www.masteringchemistry.com/support>, where you will find:

- System Requirements
- Answers to Frequently Asked Questions
- Registration Tips & Tricks video
- Additional contact information for Customer Support, including Live Chat