Chem 004:012 – Principles of Chemistry II – Summer 2010

Professor: Mohamed El-Maazawi
Office: E325 Chemistry Bldg
Phone: 384-1883
Email: mohamed-el-maazawi@uiowa.edu
Office Hrs: Tu, Wed & Thu 9:30 AM – 10:30 AM (or by appt.)

Course Objectives
Chem 4:012 is the second semester of a two-semester course sequence (004:011/004:012) that is designed to provide students with a broad overview of chemistry. Through participation in course activities, each student should expect to improve her/his knowledge of chemistry and to develop improved qualitative and quantitative problem solving skills.

Course Structure and Instructors
Chem 4:012 consists of five components each with different instructors and scheduling. Attendance is expected at all five components of the course.

(1) Lecture: Professor El-Maazawi
(2) Discussion Section: a graduate teaching assistant (TA)
(3) Case Study: Professor El-Maazawi
(4) Laboratory: a graduate teaching assistant (TA)
(5) Exams: Professor El-Maazawi

Lecture M – F 1:00 – 1:50 PM W268 CB (Friday Lecture time is tentative)

Discussion Section
Discussion Sections are limited to 22 students and are a complement to lectures. Each section meets twice a week. Students ask questions and obtain problem-solving experience. For meeting times and room assignments see ISIS: isis4.uiowa.edu/courses/

Case Study
Activities for credit are conducted during Case Study periods. Case Study is held on Monday 10:00-11:20 AM in W268 CB

Laboratory
Experiment: Experiments provide students with hands-on experience concerning selected course topics. For meeting times and room assignments see ISIS: isis4.uiowa.edu/courses/
Safety: Students must always comply with laboratory safety rules. Students must complete laboratory safety training and pass a safety quiz before they will be allowed to perform lab experiments. If a student fails to comply with laboratory safety rules, the student will be asked to leave the laboratory and points will be deducted.
Pregnancy: Many chemicals pose potential hazards to a fetus or young child. Women who are pregnant, nursing, or who expect to become pregnant are strongly advised to consult with their physician about the hazards of possible exposure to chemicals used in this course. MSDS and other information are available.

TA Office Hours
Discussion and Laboratory Section teaching assistants (TAs) have scheduled office hours in Room 243 in the Chemistry Building. This room is normally open 8:30 AM - 4:30 PM, Mon - Fri. TAs for chemistry courses other than Chem 4:012 may also be able to assist you.
Course Content and Prerequisites

**Content**: properties of solutions, chemical kinetics, nuclear chemistry, aqueous equilibria, chemical thermodynamics, electrochemistry, chemistry of the representative elements, coordination compounds, and organic & biological chemistry.

**Prerequisites**: Chem 004:011 – Principles of Chemistry I, or its equivalent.

Course Materials


*WebAssign Access Code (semester subscription obtained online)* (required software)

*Lab Notebook (w/ carbonless copy pages) and laboratory goggles* (required)

*Case Study / Lab Experiment Manual* (available at Zephyr Copies, 124 E Washington St.) (required)


Course Websites (Lecture & Lab)

Chem 4:012 – Iowa Courses Online (ICON) website URL = http://icon.uiowa.edu/

Use your Hawk ID and Hawk ID password to log in to ICON. Lecture notes, practice exams, course announcements, and other information will be posted on ICON, so students are encouraged to check ICON frequently during the semester.

Online Homework

*WebAssign* is an Internet-based software package that helps improve problem-solving skills and concept understanding. *WebAssign* website: http://www.webassign.net

Course Administration

See Lin Pierce at the Chemistry Center, Room E225 CB (phone: 335-1341), lin-pierce@uiowa.edu, for drop/add signatures, make-up laboratory and exam scheduling, course handouts, alternate textbooks, section changes, or tutor lists. Hours are M-F, 8-12 & 1-5.

Special Needs

Students with disabilities requiring modification of seating, testing, or other course arrangements should first contact the Office of Student Disability Services, 3101 Burge Hall (335-1462), and then go to the Chemistry Center, Room E225 CB. (See also: www.clas.uiowa.edu/faculty/teaching/classroom_p&p/disabilities.shtml)

Complaints

Complaints and appeals regarding this course, its instructors, or TAs can be filed with the Departmental Executive Officer at the Department of Chemistry administrative offices, Room E331 CB (335-1350).

Academic Misconduct

- The College of Liberal Arts & Sciences academic misconduct policy is available at: www.clas.uiowa.edu/students/academic_handbook/ix.shtml#1

  Academic misconduct may result in a grade reduction and/or other serious penalties.

- **Examinations**: You are expected to work alone. The instructors will employ statistical software to examine student answer sheets to identify copying on exams – cheating will not be tolerated.

- **WebAssign (homework)**: You are expected to complete WebAssign homework alone.

- **Laboratory**: Data collection is a group activity (2 or 4 students). All data is expected to be collected in the laboratory. Use of data not collected by the author of the report, use of data not acquired during the lab period, and use of fabricated data will be considered academic misconduct. Case study, pre-lab, and lab questions may be discussed in groups, but must be answered individually.

Policy of the College of Liberal Arts & Sciences

This course is given by the College of Liberal Arts & Sciences. This means that class policies on matters such as requirements, grading, and sanctions for academic dishonesty are governed by the College of Liberal Arts & Sciences. Students wishing to add or drop this course after the official deadline must receive the approval of the Dean of the College of Liberal Arts & Sciences. Details of the University policy of cross enrollments may be found at: www.uiowa.edu/~provost/deos/crossenroll.doc
Grading
 Semester grades will be based on four 1½-hour unit exams, homework, Case Study / Laboratory work, and Discussion Section participation; plus & minus grades will be awarded.

- 4 Unit Exams = 60%
- Case Study & Lab Experiments = 20%
- WebAssign homework = 10%
- Discussion Section participation = 10%
Total = 100%

Laboratory Component Requirements and Make-up Information
 A passing grade in Chem 4:012 requires successful completion of the Case Study / Laboratory portion of the course. This means: (i) you must receive at least 50% of the Case Study / Laboratory points, and (ii) you must complete at least four of the six laboratory experiments. If a Case Study or Laboratory is missed owing to illness, family emergency, or other qualifying excuse, a “Laboratory Make-up Request Form” must be submitted to the Chemistry Center. Makeup periods will be announced. A course grade of Incomplete may be assigned if it is impractical to make up more than one excused laboratory absence.

Examinations
 There are four 2-hour unit exams. Students should bring their University ID, and a basic scientific calculator, to each exam. Graphing calculators, programmable calculators or data transmitting devices (e.g., PDA, laptop, cell phone) will not be allowed in the examination room. Room assignments will be announced in class and listed on the ICON Chem 4:012 website.

Exam 1: Thu, June 17, 5:30-7:30 PM, Room TBA - Chaps 13, 14
Exam 2: Thu, July 01, 5:30-7:30 PM, Room TBA - Chaps 16, 17, 18
Exam 3: Thu, July 15, 5:30-7:30 PM, Room TBA - Chaps 18, 19, 20
Exam 4: Thu, July 29, 5:30-7:30 PM, Room TBA - Chaps 21, 22, 23, 24
Exams will not be re-scheduled to accommodate holiday or other travel plans.

Make-Up Examinations
 If an exam is missed owing to an illness, family emergency, or other university recognized excuse, to qualify for a make-up exam, written documentation must be submitted to the Chemistry Center no later than 3 days after the missed exam. Be aware that the instructors consider the use of dishonest or falsified excuses to be a violation of the University honor code and such situations will be considered to be cheating.
Tentative Course Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Lectures &amp; Exams</th>
<th>CS &amp; Lab</th>
<th>WebAssign</th>
<th>WA Due Date</th>
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<tbody>
<tr>
<td>June 8</td>
<td>T</td>
<td>Course Introduction &amp; Ch 13</td>
<td>Safety Quiz</td>
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<td>9</td>
<td>W</td>
<td>Ch 13 – Properties of Solutions</td>
<td>Safety Quiz</td>
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<td>11</td>
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<td>14</td>
<td>M</td>
<td>Ch 14 – Chemical Kinetics</td>
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<td>Ch 14</td>
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<td>18</td>
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<td>Ch 25 – Organic Compounds</td>
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<td>22</td>
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<td>Ch 16 – Acid-Base Equilibria</td>
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<td>Ch 16</td>
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<td>28</td>
<td>M</td>
<td>Ch 17 – Ionic Equilibria</td>
<td>Case Study 9</td>
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<td>W</td>
<td>Ch 19</td>
<td>Makeup Lab</td>
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<td>9</td>
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<td>Ch 20 – Electrochemistry</td>
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<td>Ch 24 – Coordination Compounds</td>
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<td>Ch 24</td>
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**Guidelines for Lab Performance**

Punctuality: Every 5 minutes results in a loss of 2 points  
thus >25 minutes -10 points  
30 minutes late – cannot do lab unless a special permission is obtained from Dr. El-Maazawi

Preparedness 1 – 3 questions or actions that show a lack of preparation for the lab – ½ point each (questions like “what should I do next?”)  
For each additional question –1 point  
(No points should be taken off for asking a safety related question)

Participation -1 point if only occasionally contributing to group activities  
-2 point if contributing very little  
-3 points if just standing there and not even giving suggestions.

Disruption -1 to 5 depending on how disruptive the student is (An example of this would be completely preventing a group from finishing by doing the experiment “his/her” way despite what the correct procedure)

Safety  -0.5 point for each goggle reminder  
-1 point for more serious safety violations (spilling chemicals, leaving an unattended Bunsen burner, etc)

**Distribution of Lab Points:**

1) 5 points for Lab Performance (see above)  
2) 10 points for being on time and performing the lab activities in a proper manner.  
3) 5 points for quality of results.  
a. Less than 10% from the correct value(s) – no loss of points  
b. Between 10 and 20% of the correct value – loss of 2 points  
c. 20% or more – loss of 4 points  
4) 5 points for the discussion and conclusions section including answering the questions  
5) 5 points for each case study activity  
6) 5 points for each prelab activity
Teaching Policies & Procedures: Syllabus Insert

Administrative Home
The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Student Academic Handbook.

Electronic Communication
University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences. (Operations Manual, III.15.2. Scroll down to k.11.)

Accommodations for Disabilities
A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.

Academic Fraud
Plagiarism and any other activities when students present work that is not their own are academic fraud. Academic fraud is a serious matter and is reported to the departmental DEO and to the Associate Dean for Undergraduate Programs and Curriculum. Instructors and DEOs decide on appropriate consequences at the departmental level while the Associate Dean enforces additional consequences at the collegiate level. See the CLAS Academic Fraud section of the Student Academic Handbook.

CLAS Final Examination Policies
Final exams may be offered only during finals week. No exams of any kind are allowed during the last week of classes. Students should not ask their instructor to reschedule a final exam since the College does not permit rescheduling of a final exam once the semester has begun. Questions should be addressed to the Associate Dean for Undergraduate Programs and Curriculum.

Making a Suggestion or a Complaint
Students with a suggestion or complaint should first visit the instructor, then the course supervisor, and then the departmental DEO. Complaints must be made within six months of the incident. See the CLAS Student Academic Handbook.

Understanding Sexual Harassment
Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Comprehensive Guide on Sexual Harassment for assistance, definitions, and the full University policy.

Reacting Safely to Severe Weather
In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Public Safety web site.

*These CLAS policy and procedural statements have been summarized from the web pages of the College of Liberal Arts and Sciences and The University of Iowa Operations Manual.