CHEM 4333 and CHEM 5233
Advanced Inorganic Chemistry
Fall 2011
MWF 11:30 am – 12:20 P.M. PHSC 224

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Office Hours: Mon, Wed & Fri 10:00 A.M. – 11:00 A.M. (or by appointment).

Resources:


Web resources:

Course website: http://learn.ou.edu (D2L)
Facebook: OU Chem 4333/5233
Interactive periodic table: http://www.webelements.com
American Chemical Society, many useful links: http://chemistry.org

Course Objective/Description:

The foundations of Inorganic Chemistry and a survey of important elements and compounds based on atomic structure and position in the Periodic Table.
Lecture Topics:

*Foundations of Inorganic Chemistry*
  • Atomic Structure (Chapter 1)
  • Molecular Structure and Bonding (Chapter 2)
  • Structures of Simple Solids (Chapter 3)
  • Acids and Bases (Chapter 4)
  • Oxidation and Reduction (Chapter 5)
  • Molecular Symmetry (Chapter 6)
  • Periodic Trends (Chapter 9)

*The Elements and their Compounds*
  • Hydrogen (Chapter 10)
  • The s-Block Elements (Chapters 11–12)
  • The p-Block Elements (Chapters 13–18)
  • Introduction to Coordination Compounds (Chapter 7)
  • The d-block Elements (Chapters 19–21)
  • Organometallic Chemistry (Chapter 22)
  • Bioinorganic Chemistry (Chapter 27)
  • The f-block Elements (Chapter 23)

**Holidays**

September 5       Labor Day
October 7         Fall (Texas) Holiday
November 23-25    Thanksgiving Holiday
Course Grading:

Final grades will be assigned based on total points accumulated out of a maximum possible of 1000. Although I prefer to assign grades using a curve, I will guarantee the following letter grades:

900 or better: A
800–899: B
650–799: C
500–649: D

The grading for undergraduates (4333) and graduate students (5233) are different and are summarized below:

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<th>4333</th>
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<td>Homework:</td>
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<td>Exam I:</td>
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Homework: Six problem sets will be assigned (check D2L for assignments). Homework will serve two main purposes: (1) provide a review of concepts that you should have covered in other coursework that you have taken, but may have forgotten and (2) cover material in greater depth than can be covered in the lectures or on the examinations. Problems similar to those assigned as homework may appear on the exams. Homework will be submitted electronically via D2L. No paper copies will be accepted. Late homework assignments will
not be accepted. Answer keys will be posted on D2L. The best five of the six grades that you receive will count toward your total (the lowest grade will be dropped).

**Exams:** There will be three (3) in-class, closed-book, 50-minute exams during the semester. All three Exams will be at the regular class time.

**Final Exam:** A mandatory, closed-book final exam will be given during finals week.

**Writing Assignment:** Graduate students (those registered for CHEM 5233) will complete a short writing assignment that will be due toward the end of the semester. The paper will be a critical summary of an article on inorganic chemistry from the primary literature.

**Oral Presentation:** Graduate students (those registered for CHEM 5233) will present a short oral presentation on topics related to their writing assignment toward the end of the semester. The presentations will be “mini-lectures” and the subject-matter covered by the student presentations will be included on the Final exam.

**Keys to effective learning/performance:**

- Read the assigned text pages both before and after class.
- Regularly solve as many homework problems and exercises as possible. The exams will draw heavily on these assigned problems.
- Attend class regularly, and ask questions.

**Other Policies:** Each student should acquaint her or his self with the University’s codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on physical handicap. The instructor reserves the right to change by addition and/or subtraction any and/or all materials contained in this syllabus. This includes, but is not limited to, course content, assignments, due dates, and portion(s) of the grade assigned to individual items within the course.

**Absences:** Students are responsible for the content of courses in which they are enrolled. Students have a responsibility to inform the instructor prior to absences whenever possible. It is the policy of the University to excuse the absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required classwork that may fall on religious holidays.
**Make-ups:** No make-up exams will be allowed unless the absence is justified (i.e., medically justified reasons, official university-sponsored activities, religious holidays, or legally required activities). If the absence for an exam cannot be justified to my satisfaction, this will result in a grade of zero for that exam. Please note that the Final Exam is absolutely mandatory for all students. Failure to take the Final Exam will automatically result in a grade of F for the course.

**Dropping:** The last day to drop with no record of grade is September 2, 2011. The last day for an automatic grade of "W" for dropped courses is October 28, 2011. The last day to drop with permission from the Dean is December 9, 2011.

**Cheating:** Any attempt to represent the work or ideas of others as your own without proper acknowledgments is academic misconduct and will be dealt with by the procedure that is described in the Student Code of Responsibility and Conduct, which is available from the College of Arts and Sciences.

**Reasonable Accommodation:** Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.
Appendix I

Fall 2011 CHEM 4333/5233 Calendar

August 22  First day of class

September 5  Labor Day — no classes

September 11  Problem Set 1 due

September 12  Exam 1

September 25  Problem Set 2 due

October 7  Fall (Texas) Holiday — no classes

October 9  Problem Set 3 due

October 10  Exam 2

October 23  Problem Set 4 due

November 6  Problem Set 5 due

November 7  Exam 3

November 20  Written Assignments due (CHEM 5333 students ONLY)

November 23  Thanksgiving Vacation — no classes

November 25  Thanksgiving Vacation — no classes

November 27  Problem Set 6 due

November 28 –  Oral Presentations (CHEM 5333 students ONLY)
December 9

December 14  Comprehensive Final Exam (1:30 PM)