Chemistry 2303 – Inorganic Chemistry 1: Structure & Bonding

Course Outline – Fall 2014

Professor: Dr. Bobby Ellis (Office: 323 Elliott Hall; E-mail: bobby.ellis@acadiau.ca)

Lectures: Mon., Wed. and Fri. 10:30-11:20 am in 320 Elliott Hall

Tutorials: Optional tutorials will be held prior to midterm and final exams

Labs: Mon. 1:30-4:30 pm in 204 Elliott Hall

Office Hours: Wed. 8:30-10:30 am

Textbook: *Inorganic Chemistry, 5th Edition* by Miessler, Fischer and Tarr
ISBN-10: 031811054 ISBN-13: 978-0321811059
not mandatory, but access to *an inorganic textbook* is recommended

Website: Supplementary Problems and Other Course Resources:
http://www.acadiau.ca/~bellis/resources/

Other: Students are **strongly recommended** to purchase a molecular model kit

Grading:

Assignments/Quizzes	15 %	
Lab Reports	25 %	
Midterm Exam #1	10 %	Friday, October 3, 2014
Midterm Exam #2	10 %	Wednesday, October 22, 2014
Midterm Exam #3	10 %	Monday, November 17, 2014
Final Exam	30 %	

There are no make-up midterm exams. If you have a valid excuse (as determined by the Registrar) the point value for the midterm is transferred to the value of the final exam. Programmable calculators are not allowed for midterms or final exams.

The goals of this course are to solidify and build upon the concepts of chemical structure and bonding presented in CHEM 1013/1023 and CHEM 1113/1123. The topics covered in this course are:

1. Atomic Structure (Periodic Trends, Reduction-Oxidation Reactions)
2. Simple Bonding Theories (Lewis Structures, VSEPR Theory, Valence Bond Theory)
3. Symmetry and Group Theory (Point Groups, Molecular Symmetry, Character Tables)
4. Molecular Orbital Theory (Diatomic MO Diagrams, Polyatomic MO Diagrams)
5. Coordination Chemistry (Crystal Field Theory, Ligand Field Theory)
6. Ionic Bonding (Crystal Systems, Bonding in Extended Salt Structures)
7. Main Group Chemistry

Students with Disabilities that Affect Learning

If you are a student with a documented disability who anticipates needing accommodations in this course, please contact Disability Access in the Student Resource Centre, lower floor of the Old SUB (Old Student Union Building), disability.access@acadiau.ca, 902-585-1823.

Policies on Missed Course Work due to Absences

Assignments

If an assignment is not submitted by the beginning of class on the due date and you **do not have a valid excuse** (as determined by the Registrar), you lose 20% of the total value per calendar day until it is submitted.

If an assignment is not submitted by the beginning of class on the due date and you **have a valid excuse** (as determined by the Registrar), the point value for that assignment is transferred to the value of the final exam.

Laboratory Work

You must fully complete (hands-on portion and report) at least six experiments to complete the laboratory portion of this course in order to receive course credit.

You must complete more than 50% of the hands-on portion of an experiment in order to submit a report.

- For two week experiments you must be present for at least the first week.
- For three week experiments you must be present for at least two of the three weeks.

If you were not present for enough of the experiment to submit a report and you **do not have a valid excuse** (as determined by the Registrar), you will receive a grade of zero for that report.

If you were not present for enough of the experiment to submit a report and you **have a valid excuse** (as determined by the Registrar), the point value for that report is transferred to the value of the final exam.

If you completed the hands-on portion of an experiment and the laboratory report is not submitted by the beginning of lab on the due date and you **do not have a valid excuse** (as determined by the Registrar), you lose 20% of the total value per calendar day until it is submitted.

If you completed the hands-on portion of an experiment and the laboratory report is not submitted by the beginning of lab on the due date and you **have a valid excuse** (as determined by the Registrar), it is due the first day after the excused period by 6 pm.