

Physical Inorganic Chemistry – Winter 2019

CHEM 3031 3.0

Three lecture hours

Term: Winter 2019

Prerequisite: Chem 3030

Time: MWF 12:30 – 1:20pm

Location: CLH F

Please put Chem 3031 in the email subject line

Course Director

Jennifer Chen

E-mail: jilchen@yorku.ca

Office: CB456

Office hour: TBD

Course Description. This course builds on materials presented in Chem 2030 and Chem 3030 and is divided into three major areas. The first part of the course deals with spectroscopies for structural determination of inorganic compounds. The second part of the course examines the theories for describing the bonding and properties of inorganic compounds. The third part of the course introduces 1D and solid state materials, with emphases on their electronic properties and technological applications.

Course Objectives. At the end of this course students will have an appreciation for the theory and physical characterization techniques for inorganic compounds and solid state materials. Students will also be exposed to the application of these compounds in relation to real world and industrial processes.

Recommended texts and references (in Steacie Reserve):

Inorganic Spectroscopic Methods (Oxford chemistry primer) - A. Brisdon

Miessler and Tarr Inorganic Chemistry

Housecroft and Sharpe Inorganic Chemistry

Solid State Chemistry An Introduction – Smart and Moore

Basic Solid State Chemistry – A. R. West

Chemical Applications of Group Theory – A. Cotton

Understanding Inorganic Chemistry– J. Barrett

The Electronic Structure and Chemistry of Solids – P. A. Cox

Evaluation: In-class/online quizzes¹ and activities² – 10% total

2 Midterms – 20% each

Written assignment – 10%

Final exam – 40%

¹Short (10 min) pop quizzes based on problem sets will be unannounced in class. Some quizzes will be held on Moodle. ²In-class activities (total iClicker marks) will count as one quiz. The lowest grade of a quiz will be dropped.

Missed quizzes will not be rescheduled and will count as zero. Missed midterm exam will not be rescheduled (see exception below). The weight of the missed midterm will be added to the final exam.

*Alternative marking scheme (when both midterms are written): 10% quizzes, 10% written assignment, 80% final exam (midterm tests are dropped)

Tentative Schedule:

Midterm 1: Feb. 13

Midterm 2: Mar. 20

Written assignment: Mar. 27

Reading week: Feb. 16 – Feb. 22

Final exam period: Apr. 5 – Apr. 20 (must stay for the whole period)

Course policies:

1. Email etiquette:

- **You must use your YorkU email address and put “Chem 3031” in the subject line.** Emails not conforming to the rules may go into the spam folder and will not receive a response.
- As a courtesy and being respectful to your correspondent, write your email professionally (i.e. text-messaging language is unacceptable). Questions regarding calculations or involving equations should be avoided and are best discussed in person during office hour.

2. Missed exam:

- **If you miss a midterm**, no document is required. The weight of the missed midterm will be added to the final exam automatically. **Alternative marking scheme does not apply. It is in your best interest to take the midterms and use them as practice.**
- **If you miss both midterms**, you will need to present at least one acceptable documentation. When approved, you will be required to write a make-up test for 20% of your mark. Alternative marking scheme does not apply.
- Deferred standing for final exam is rarely granted and petition to your home faculty will be required. A two-day notice will be given for the makeup final exam. Denied petitions will result in a zero on the final exam. See <http://www.registrar.yorku.ca/petitions/academic/for> information.

3. iClicker REEF:

- iClicker REEF app can be downloaded for free on your mobile devices and tablets, also available at app.reef-education.com for laptops. York has free subscription to iClicker REEF, so do not make any purchase even if prompted.
- iClicker questions provide you with opportunities to put your learning to practice and gives you feedback on how well you understand course concepts. Using an account not registered to you (or answering iclicker questions for a friend) defeats the purpose of using iclickers and is considered a **breach of Academic Honesty**.
- Occasionally a “location poll” may be conducted to see if you are physically present when participating in iClicker in the lecture.

4. Re-grading of midterm exam:

- If you believe a written answer on a test was marked incorrectly, you must resubmit to me in person detailing your rationale within 5 business days of the return of the exam. **ONLY** those answers written in ink are eligible for re-marking. NOTE: re-marking can result in the mark being raised, confirmed, or lowered.

5. Academic Honesty

- **Any student who breaches York's Academic Honesty Policy will be charged.** It will at minimal result in a visit to the Associate Dean's office. Some offences include:
 - Plagiarism (see White Paper - Plagiarism Spectrum on Moodle)
 - Students who misrepresent themselves during iClicker activity, a quiz or examination or provide documentation for absence from any of these that is not legitimate
 - Students who submit any material for remarking that has been modified in any manner to misrepresent the original assessment

Important Information for All Students:

All students are expected to familiarize themselves with the following information, at <http://secretariat-policies.info.yorku.ca/>.

- York's Academic Honesty Policy
- Policy on Accommodation for Students with Disabilities
- Code of Student Rights and Responsibilities
- Policy on Religious Observance Accommodation