Chem 2281 – Inorganic chemistry of the main group elements

Description: Comparison of the structure and solution chemistry of the main group elements and their oxides, halides and hydrides; examples of these compounds in the world around us, with a discussion of the chemical principles involved; Molecular Orbital Theory of polyatomic molecules; metallic bonding and semiconductors.

Prerequisite Requirements
The prerequisite for this class is Chem 2271A or Chem 2211A/B with a minimum grade of 80%. Unless you have either the prerequisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

Instructor: Professor Paul J. Ragogna (PJR)
B&GS 2024
pragogna@uwo.ca (Please, only send me email from your UWO account)
@RagognaGroup (Twitter)

Laboratory TAs: Devon Chapple, Kelly Duggan, J.W. Lamberink, Nils Vogeler

Office hours: Mondays 1330 – 1430 or by appointment

Course Webpage: OWL (https://owl.uwo.ca/portal)

Course schedule: Lectures: 3 hours per week; M W F 1230 – 1320
Location: BG&S 0153

Laboratory: 8 x 3 hour laboratory sessions during one of the following:
Tuesday: 0930 – 1230 OR 1430 – 1730
OR Wednesday 1430 – 1730 OR
Thursday 1430 – 1730

Laboratories are held in ChB 080 (lower ground floor). The laboratory schedule is in the Chem 2281 Laboratory Manual and it is posted on OWL.


Laboratory Notebook: A hard covered and bound laboratory notebook is needed for recording all data and observations in the laboratory. A partially filled one from another course will be fine. Be sure to clearly indicate where the Chem 2281 experiments begin.

Do not use a notebook for a course you are taking concurrently with 2281.

Other important things ...

Missed tests, labs or other course work:
If an in-class test is missed, there will be no make-up option. If the reason for absence is valid and appropriate documentation is provided (see below) then the weighting of the test will be transferred to the final exam.

Missing more than 2 laboratory experiments regardless of whether accommodation was granted will result in a failing Chem 2281 grade.

Students are not eligible to claim distress or medical issues after writing a test or exam. It is the responsibility of the student to assess if they are fit to write the exam/test. This is a policy of the Department of Chemistry.

If illness or other serious circumstances prevents a student from completing a course requirement (test, assignment, presentation or exam) valid medical or supporting documentation from the Dean’s Office must be provided as soon as possible. If the accommodation is approved, it is the student’s responsibility to contact pjr regarding alternative arrangements for evaluation. If the circumstances prevent attendance at the final exam, the student must immediately obtain a ‘Recommendation of Special Examination’ form from the Dean’s Office. For more information, see:
http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf

In the case of illness, the student must complete the proper documentation. The Student Medical Certificate (http://studentservices.uwo.ca/secure/medical_document.pdf) must be completed for off-campus medical care or the student must request a Records Release Form (found in the Dean’s Office) if care is received on-campus at Student Health Services.

If you miss the Final Exam, contact your faculty’s Academic Counselling Office as soon as possible. They will assess your eligibility to write the Special Exam (the name given by the university to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a “Multiple Exam Situation” (see http://www.registrar.uwo.ca/examinations/exam_schedule.html).

Use of Electronic Devices:

Please turn your cell phones to silent and refrain from answering them during class. Use of a laptop or tablet to take notes is permitted. Basic scientific calculators are the only electronic devices permitted during tests or exams.

Statement on Academic Honesty:
Written assignments and presentations must be in the students’ own words. Data, ideas, conclusions, etc. from other sources must be referenced to acknowledge their source and can
only be used word-for-word if enclosed in quotations. Plagiarism is considered a major scholastic offence.
Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf
All required papers may be subject to submission for textual similarity review to the commercial plagiarism-detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Accessibility:
Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2111 (ext 82147) for any specific question regarding an accommodation.

Support Services:
For help in developing your learning skills please see the Student Development Centre (http://www.sdc.uwo.ca). The Learning Help Centre offers individual support on a drop-in basis (during Fall and Winter terms) and through scheduled individual counseling (year round).
Students who are in emotional/mental distress should refer to Mental Health@Western http://www.uwo.ca/uwocom/mentalhealth/ for a complete list of options about how to obtain help.

If you are a science student, the Academic Counselling Office of the Faculty of Science is located in WSC 191, and can be contacted at 519-661-3040 or scibmsac@uwo.ca. Their website is http://www.uwo.ca/sci/undergrad/academic_counselling/index.html.
The University Student Council offers additional support (http://westernusc.ca/services).
Registrarial Services provides useful course information (http://registrar.uwo.ca).
Tests and exams are necessary to assess your mastery of core concepts. Your overall course grade, out of 100, will automatically be the *highest* of the grades calculated by the five calculation methods shown below. Listed next to the respective components are their maximum contributions toward the course grade.

<table>
<thead>
<tr>
<th>Component</th>
<th>Notes</th>
<th>Method 1</th>
<th>Method 2</th>
<th>Method 3</th>
<th>Method 4</th>
<th>Method 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>Will be held in class on Monday January 27, 2019.</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>0</td>
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<tr>
<td>Test 2</td>
<td>Will be held in class on Monday February 24, 2019.</td>
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<tr>
<td>Test 3</td>
<td>Will be held in class on Friday March 20, 2019. Your best two tests will count for 15% each with the lowest grade test counting for 10%.</td>
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<tr>
<td>Oral Exam (Optional)</td>
<td>To be scheduled individually on Tuesday or Friday afternoons. Please declare your intention to participate in an oral exam by Friday January 17, 2020. Oral exams will begin the following week and will last 10 – 15 minutes.</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Gong Show</td>
<td>Every Friday beginning THIS Friday January 10th, approx. 6 students from the class will present their “gong show”. Not to worry, pjr will explain the details.</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Homework</td>
<td>There will be three homework assignments throughout the term.</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>0</td>
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<tr>
<td>Laboratory</td>
<td>Self-explanatory.</td>
<td></td>
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<tr>
<td>Final Exam</td>
<td>Scheduled by the Registrar.</td>
<td>30</td>
<td>40</td>
<td>32</td>
<td>42</td>
<td>85</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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</tbody>
</table>

In order to obtain an overall passing grade in Chem 2281, it is necessary to obtain a passing grade on the laboratory component and the combined marks from the tests, homework, gong show, oral exam and final examination. This course has a variable marking scheme where your posted grade for the course will be the highest of the five different options.

**Attendance at lecture is mandatory** – You will only be successful in Chem 2281 if you have regular lecture attendance.