CHM 1266: Physical methods in Inorganic Chemistry

I CONTACTS

COURSE COORDINATOR
Name: Professor D.W. Stephan
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Other professors
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II COURSE OVERVIEW

COURSE DESCRIPTION:
This is a team-taught course on physical methods in inorganic chemistry.

STUDENT LEARNING OUTCOMES:
To give the student a clear understanding of the methods and a general proficiency in various methods applied to inorganic chemistry issues.

PREREQUISITE COURSE:
The prerequisite for this course is admission to graduate school.
Supplemental:

III HOW THE COURSE IS ORGANIZED

The zoom lecture will be announced on Quercus.
The lectures are on Tuesdays at 3 PM-5 PM.

Sept 12 DWS (hybrid) Mossbauer
Sept 19 DWS (hybrid) NMR of paramagnetic species
Sept 26 Korzynski (hybrid) EPR
Oct 3 Korzynski (hybrid) magnetometry techniques
Oct 10 Kraatz (Zoom) Electrochemistry
Oct 17 Kraatz (Zoom) Electrochemistry
Oct 24 Ozin (Zoom) EXAFS XANES XPS UPS
Oct 31 Ozin (Zoom) EXAFS XANES XPS UPS
Nov 7 Song (Zoom) Diffraction Methods
Nov 21 Song (zoom) Diffraction Methods
Nov 28 Korzynski (hybrid) DFT

Each Professor will provide a short assignment, due a week after their last lecture.

Nov 30	Abstract due
	1 pg abstract and lead references
Dec 1	Student Presentations
	Students are asked to present a paper in which non-routine, characterization techniques are exploited. (15 min and 5 min for questions). Presentations will be online.
Dec 5	Exam Location TBA

IV   EVALUATION/GRADING SCHEME

Assignment (5x5)	25%
Abstract	5%
Presentation	40%
final	30%

V   COURSE POLICIES

- I will make every effort to respond to email within 24 hrs on weekdays (Douglas.stephan@utoronto.ca).

- Office hours: I will be available M-F (1-5:30 pm); barring other commitments. Please use the link below to arrange a TEAMS meeting using the booking webpage:https://outlook.office365.com/owa/calendar/DouglasStephan@utoronto.onmicrosoft.com/bookings/

- *The University of Toronto is committed to equity, human rights, and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities.*"

- Privacy language and appropriate use of course materials:
  https://teaching.utoronto.ca/ed-tech/audio-video/sample-statements/

Each member of this course is expected to maintain a: (i) professional and respectful attitude during all course activities, including classes, laboratories, tutorials, and other online activities. (ii) personal calendar/schedule/organizer to ensure that all course activities are completed, and due dates are met. (iii) collection of notes recorded independently based on concepts covered in course activities (students registered with Accessibility Services requiring a class note-taker will have access to this accommodation) (iv) familiarity with the university policy on Academic Integrity The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to

create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. The 1266 Teaching team will neither condone nor tolerate behaviour that undermines the dignity or self-esteem of any individual in this course and we wish to be alerted to any attempt to create an intimidating or hostile environment. It is our collective responsibility to create a space that is inclusive and welcomes discussion. Discrimination, harassment, and hate speech will not be tolerated. If you have any questions, comments, or concerns, we encourage you to reach out to the staff in our Equity Offices.

VI   TECHNOLOGY REQUIREMENTS

Specific guidance from the U of T Vice-Provost, Students regarding student technology requirements is available here: https://www.viceprovoststudents.utoronto.ca/covid-19/tech-requirements-online-learning/

Advice for students more broadly regarding online learning is available here: https://onlinelearning.utoronto.ca/getting-ready-for-online/

This course requires the use of computers, and of course sometimes things can go wrong when using them. You are responsible for ensuring that you maintain regular backup copies of your files, use antivirus software (if using your own computer), and schedule enough time when completing an assignment to allow for delays due to technical difficulties. Computer-viruses, crashed hard drives, broken printers, lost or corrupted files, incompatible file formats, and similar mishaps are common issues when using technology, and are not acceptable grounds for a deadline extension.

VII   INSTITUTIONAL POLICIES AND SUPPORT

ACADEMIC INTEGRITY

On Academic Integrity:
Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:
1. Using someone else's ideas or words without appropriate acknowledgement.
2. Submitting your own work in more than one course without the permission of the instructor.
3. Making up sources or facts.
4. Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:
1. Using or possessing unauthorized aids.
2. Looking at someone else's answers during an exam or test.
3. Misrepresenting your identity.

In academic work:
1. Falsifying institutional documents or grades.
2. Falsifying or altering any documentation required by the University.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see https://www.academicintegrity.utoronto.ca/).

Use of Turnitin
Note for instructor: *Turnitin (*https://teaching.utoronto.ca/ed-tech/teaching-technology/turnitin/*) is a very highly recommended tool directly integrated into Quercus that will assist in detecting textual similarities between compared works. Students must be informed at the start of the course that the instructor will be using Turnitin. If you plant to use this tool, the course syllabus must include the following statement (as is):*

"Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site".

COPYRIGHT
Course videos and materials belong to your instructor, the University, and/or other source depending on the specific facts of each situation and are protected by copyright. In this course, you are permitted to download session videos and materials for your own academic use, but you should not copy, share, or use them for any other purpose without the explicit permission of the instructor. More information regarding this is available here: https://teaching.utoronto.ca/ed-tech/audio-video/copyrightconsiderations

ACCESSIBILITY NEEDS

Students with diverse learning styles and needs are welcome in this course. The University of Toronto is committed to accessibility: if you require accommodations for a disability, or have any other accessibility concerns about the course, please contact Accessibility Services as soon as possible.

ADDITIONAL SERVICES and SUPPORT

The following are some important links to help you with academic and/or technical service and support

- General student services and resources at Student Life
- Full library service through University of Toronto Libraries
- Resources on conducting online research through University Libraries Research
- Resources on academic support from the Academic Success Centre
- Learner support at the Writing Centre
- Information for Technical Support/Quercus Support

ACCOMMODATIONS FOR RELIGIOUS OBSERVANCES

Following the University's policies, reasonable accommodations will be made for students who observe religious holy days that coincide with the due date/time of an assignment, tutorial, class or laboratory session. Students must inform the instructor before the session/assignment date to arrange accommodations.

ACKNOWLEDGEMENT OF TRADITIONAL LANDS

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years, it has been the traditional land of the Huron-Wendat, the Seneca and, most recently, the Mississaugas of the Credit River. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.