This page serves as the ROASS statement for: CHEM 4802 T01/GEOL 4280/GEOL 7790/ECE 4860 T07

This course introduces modern instrumental techniques for the characterization of materials. The topics examined include diffraction, spectroscopy, mass spectrometry, electron and scanning probe techniques. Emphasis is placed on basic principles, instrument operation, data analysis and sample preparation.


Course Co-Ordinator: Professor Derek Oliver
Director, Manitoba Institute for Materials (20 Sifton Rd, phone x7820)
Acting Head, Electrical & Computer Engineering (E2-390G EITC, phone x9563)
email: Derek.Oliver@umanitoba.ca

Assessment
Midterm: 20% (February 28, in class)
Labs: 30%
Final Exam: 50%

The Voluntary Withdrawal (VW) date for this course/term is 20th March 2019

Lectures: Tues/Thurs 10:00-11:15 am in Wallace 243

Lecturers
Mario Bieringer <Mario.Bieringer@umanitoba.ca>
Norman Halden <Nm.Halden@umanitoba.ca>
Mostafa Fayek <Mostafa.Fayek@umanitoba.ca>
Jason Morrison <Jason.Morrison@umanitoba.ca>
Derek Oliver <Derek.Oliver@umanitoba.ca> (Course co-ordinator)
Ravinder Sidhu <Ravinder.Sidhu@umanitoba.ca>
Douglas Thomson <Douglas.Thomson@umanitoba.ca>
Feiyue Wang <Feiyue.Wang@umanitoba.ca>
Guo-Zhen Zhu <Guozhen.Zhu@umanitoba.ca>

Contact hours: by appointment (please email lecturer directly)

Laboratories (Individual Lab Allocations)
GEOL 4280: Wednesdays, 14:30 - 17:30
All other students: Thursdays, 14:30 - 17:30
Lab locations and times may vary. Visit the individual lab pages to determine where to meet and what you will be responsible for.

Experiment A (Lab report due Feb 5 in class; Graduate time scheduled by Feb 7, Graduate report due Feb 12 in class)
GEOL 4820: Jan 9/16/23/30
All others: Jan 10/17/24/31

Experiment B (Lab report due Mar 12 in class; Graduate time scheduled by Mar 14, Graduate report due Mar 19 in class)
GEOL 4820: Feb 6/13/27 & Mar 6
All others: Feb 7/14/28 & Mar 7

Experiment C (Lab report due Apr 9 in class; Graduate time scheduled by Apr 11, Graduate report due to Derek Oliver by noon on April 16 in E2-390G EITC)
GEOL 4820: Mar 13/20/27 & Apr 8
All others: Mar 14/21/28 & Apr 9

Requirements/Regulations

- Attendance at lectures and laboratories is essential for successful completion of this course. Students must satisfy each evaluation component in the course to receive a final grade.
- It is the responsibility of each student to contact the course co-ordinator (Derek Oliver) in a timely manner if he or she is uncertain about his or her standing in the course and about his or her potential for receiving a failing grade. Students should also familiarize themselves with the University's General Academic Regulations, as well as Section 3 of their Faculty Academic Regulations dealing with incomplete term work, deferred examinations, attendance and withdrawal.¹
- Students should be aware that they have access to an extensive range of resources and support organizations. These include Academic Resources, Counselling, Advocacy and Accessibility Offices as well as documentation of key University policies e.g. Academic Integrity, Respectful Behaviour, Examinations and related matters. Please review the attached summary for some key links.
- No programmable devices or systems (such as calculators, PDAs, iPods, iPads, cell phones, smart watches, wireless communication or data storage devices) are allowed in examinations unless approved by the course instructor.

¹For Graduate students, the Faculty of Graduate Studies regulations take precedence.
Academic Integrity

- Students are expected to conduct themselves in accordance with the highest ethical standards and evince academic integrity in all their pursuits and activities at the university. As such, in accordance with the General Academic Regulations on Academic Integrity, students are reminded that plagiarism or any other form of cheating in examinations, term tests, assignments, projects, or laboratory reports is subject to serious academic penalty (e.g. suspension or expulsion from the faculty or university). A student found guilty of contributing to cheating by another student is also subject to serious academic penalty.‡

‡The Faculty of Graduate Studies (FGS) mandates that all such matters be dealt with by FGS. The course coordinator and home department of a student must comply with this.

Grade Mapping

Note: These boundaries represent a guide for the instructor and class alike. Provided that no individual student is disadvantaged, the instructor may vary any of these boundaries to ensure consistency of grading from year-to-year.

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<tr>
<th>Letter</th>
<th>A+</th>
<th>A</th>
<th>B+</th>
<th>B</th>
<th>C+</th>
<th>C</th>
<th>D</th>
<th>F</th>
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<td>85-94</td>
<td>80-84</td>
<td>70-79</td>
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<td>55-64</td>
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