

Chemistry 4473A Course Outline

1. Course Information



List of Prerequisites: Chem 3373

Unless you have either the requisites 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.

2. Instructor Information

				
				

Office hours will be held by appointment via Zoom or in person. Please e-mail me to arrange a time.

3. Course Syllabus, Schedule, Delivery Mode

This course will attempt to equip the students with a knowledge of advanced synthetic organic techniques, thereby giving the student the tools necessary to design synthetic schemes for complex target molecules. We will be using the text by Kürti and Czako as a major source, but will also draw on the notes of Dale Boger as well as the current literature.

Topics Covered

1. Oxidations
2. Reductions
3. Enolate chemistry
4. Ring forming reactions
5. Pericyclic reactions

Classes begin: September 5th, 2025

Fall Reading Week: November 3rd-9th, 2025

Classes end: December 8th, 2025

4. Course Materials

Text and other Purchases:

- Strategic Applications of Named Reactions in Organic Synthesis, by Kürti and Czakó (available in the bookstore)
- (optional, but highly recommended) Molecular Model Set: Darling.

Students are responsible for checking the course OWL site (<http://owl.uwo.ca>) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class.

All course material will be posted to OWL: <http://owl.uwo.ca>.

If students need assistance with the course OWL site, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements

Stable internet connection, computer with working microphone and webcam. This will be necessary for Zoom office hours.

5. Methods of Evaluation

The final grade for the course will be determined by the following:

Weekly (approx.) assignments **10 x 5% = 50%** These are short **low stress** one-page assignments to be handed in on-line by midnight of Sept 19,26 Oct 3,10,17,24, 31 Nov 14,21,28.

Use of AI Generative Tools: The work you present must be your own. While you may employ AI to gain an understanding of the articles, the work you present must be original. The use of AI to generate graphics is strictly forbidden – this must be your work.

Term test



Final Exam

30% *cumulative*; 3 hours: Date set by registrar

In order to pass you need a mark $\geq 50\%$. The final exam must be written.

Missed midterm test. Students who miss the midterm test and are granted academic consideration will have the weight of the test transferred to the final exam. Missing a test for a non-validated reason will result in a grade of zero. There is NO alternate mid-term test.

Late or missed assignment submissions. Late assignment submissions will be penalized at 10% of the maximum possible mark per day or any part thereof. If an assignment is missed for a valid (Academic Counselling Office) reason, the weight of that assignment will be transferred to the final exam.

6. Student Absences

Academic Consideration for Student Absences

Students who experience an extenuating circumstance (illness, injury or other extenuating circumstance) sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration.

Religious Accommodation

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

<https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

Absences from Final Examinations

If you miss the Final Exam, please contact the Academic Counselling office of your Faculty of Registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (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" (e.g., more than 2 exams in 23-hour period, more than 3 exams in a 47-hour period).

If a student fails to write a scheduled Special Examination, the date of the next Special Examination (if granted) normally will be the scheduled date for the final exam the next time this course is offered. The maximum course load for that term will be reduced by the credit of the course(s) for which the final examination has been deferred. See the Academic Calendar for details (under [Special Examinations](#)).

7. Accommodation and Accessibility

Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD), which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf,

8. Academic Policies

The website for Registrarial Services is <http://www.registrar.uwo.ca>.

In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf,

the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

[Electronic devices of any kind are not allowed for tests and examinations in this course](#)

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.

9. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: <https://www.uwo.ca/sci/counselling/>.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at (519) 661-2147 if you have any questions regarding accommodations.

Learning-skills counsellors at the Student Development Centre (<http://www.sdc.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Students who are in emotional/mental distress should refer to Mental Health@Western (<http://www.health.uwo.ca/mentalhealth>) for a complete list of options about how to obtain help.

Additional student-run support services are offered by the USC, <http://westernusc.ca/services>.

This course is supported by the Science Student Donation Fund. If you are a BSc or BMSc student registered in the Faculty of Science or Schulich School of Medicine and Dentistry, you pay the Science Student Donation Fee. This fee contributes to the Science Student Donation Fund, which is administered by the Science Students' Council (SSC). One or more grants from the Fund have allowed for the purchase of equipment integral to teaching this course. You may opt out of the Fee by the end of September of each academic year by completing the online form linked from the Faculty of Science's Academic Counselling site. For further information on the process of awarding grants from the Fund or how these grants have benefitted undergraduate education in this course, consult the Chair of the Department or email the Science Students' Council at ssc@uwo.ca.