

Course Description

CHEM 281 introduces students to the basic principles of organic chemistry with emphasis on bonding, stereochemistry, reaction intermediates and reaction mechanisms, and structure-reactivity correlations. The virtual laboratory introduces basic experimental techniques and illustrates properties of organic compounds in a virtual laboratory setting.

University Operating Dates

Sep 30	Tuition due
Sep 7	Classes start
Sep 20	Last day to add courses
Sep 20	Last day to drop courses without financial penalty
Nov 1	Last day to drop without academic penalty
TBD	Last day to submit exam accommodation requests (if applicable)
Dec 3	Classes end
Dec 8-22	Exam Period

Learning Outcomes

- Write names of molecules from structures and vice versa. Identify and name functional groups
- Identify reactive sites on reagents (nucleophiles, electrophiles, acids, bases, leaving groups)
- Identify stereochemistry of molecules in terms of nomenclature and class of compounds
- Predict and justify the impact of solvent and electronic effects on reactivity
- Predict reaction outcomes in the context of substitution and elimination reactions
- Explore basic experimental techniques through Labster

Topics

- Module 1: What is a molecule?
- Module 2: Physical Properties and Molecular Structure (including Polarity)
- Module 3: An Introduction to Organic Reactions and their Mechanisms - Acids and Bases
- Module 4: Nomenclature and General Properties of Alkanes, Cycloalkanes, Alkenes, and Alkynes
- Module 5: Stereochemistry – Chiral Molecules
- Module 6: Nucleophilic Substitutions and Elimination Reactions of Alkyl Halides

- Module 7 Alkenes and Alkynes I – Properties and Synthesis. Elimination Reactions of Alkyl Halides and Alcohols
- Module 8: Addition Reactions (including Oxidation) of Alkenes and Alkynes
- Module 9: Alcohols and Ethers

Course Materials

The following material is available from the Queen's Campus Bookstore:

The online postings of student writing will be the primary texts for this course. You will need a good dictionary and thesaurus, and you may find a grammar book helpful.

Required Materials

- Textbook package
 - Organic Chemistry, Solomons and Fryhle, 12th ed. (Wiley)
 - Study Guide and Solutions Manual
 - Molecular Models
 - WileyPLUS online code to access digital textbook (may be purchased as part of textbook package or separately)
- Labs/Tutorials
 - An electronic virtual lab guide will be provided

Recommended Materials

- Organic Laboratory Techniques, Fessenden, Fessenden and Feist, 3rd ed. (Brooks/Cole)
- Organic Chemistry I as a Second Language: Translating the Basic Concepts, David R. Klein.
 - Organic Chemistry I As a Second Language: First Semester Topics, 3rd Edition; ISBN: 978-1-118-20377-4, 400 pages, August 2011, ©2012
 - Organic Chemistry I As a Second Language: First Semester Topics, 3rd Edition; ISBN: 978-1-118-01040-2, 400 pages, June 2011, ©2012
 - Wiley E-Text
 - Paperback

Third Party Policy

This course makes use of WileyPlus online assignments for some activities. Be aware that by your independent access of the WileyPlus online content, beyond what is required for the course (for example, purchasing the company's products), is subject to Wiley's terms of use and privacy policy. You are encouraged to review these documents, using the link(s) below, before using the site.

https://www.wileyplus.com/WileyCDA/privacy_policy.html

This course makes use of Labster online assignments for some activities. Be aware that by your independent access of the Labster online content, beyond what is required for the course (for example, purchasing the company's products), is subject to Labster's terms of use and privacy policy. You are encouraged to review these documents, using the link(s) below, before using the site.

<https://www.labster.com/terms-and-conditions/>

<https://www.labster.com/privacy-policy/>

Timeline

The Course Timeline shows all relevant course dates, including assessments, as well as links to other important course information. As dates may change, you should consult the Timeline each time you log in to the course.

Please note, some students may see an onQ Calendar for their course. However, the onQ calendar does not display all dates associated with your course assignments. For complete information all of your assignments in this course and the start and close dates, please refer to the **Course Timeline**.

If there are discrepancies between dates in the course onQ site, the Timeline will be considered accurate.

All times are in Kingston time (Eastern Time).

Suggested Time Commitment

Students can expect to spend approximately 16.5 - 18 hours a week (108 hours total) in study/practice and online activity for this course.

Weighting of Assessments

WileyPLUS Online Mastery Assignments	15%
Labster Virtual Labs Completion	5%
Virtual Lab Report	5%
Midterm Test	20%
Final Exam	45%
Lab Exam	10%

Assessments and Activities Description

Assessments and Activities Overview

WileyPlus Online Mastery Assignments (15%)

WileyPLUS online materials are designed to help you expand your knowledge in the concepts discussed and act as a supplementary virtual tutor. The assignments provide an opportunity for you to apply your knowledge to a mastery level before moving onto another topic. Practice questions are also available to help you to check your understanding of the material and increase your skill at completing organic calculations.

The WileyPlus assignments are numbered 1-9 and mirror the Course Unit numbers. Please attempt the assignments in order and make sure they are all completed before the suggested due date (see announcements for included accommodations for all students).

Each assignment clearly shows its hard electronic due date and time but you should aim for the suggested due dates in the timeline for each assignment. You will have three attempts at each question in the assignment before it is marked wrong, and each successive try will be worth 80% of the total mark for that question. Check the timeline for the due dates of these assignments.

Please note that answers to assignments are set to be viewable after the hard electronic due date (and any included accommodations) for study and discussion purposes. For this reason, assignments cannot be extended beyond this date under any circumstances. Because of this limitation accommodations have been included on all relevant hard electronic due dates. Do not miss due dates and do not leave assignments until the last day in case of server or wi-fi outages.

Virtual Labs (5%)

The five interactive, web-based labs from Labster introduce basic techniques and illustrate properties of organic compounds. The labs are a series of online tutorials and videos explaining an experiment or an experimental technique for which small reading and practice problem assignments are also incorporated. Assessments of the labs will examine concepts related to experiment design and the practical aspects of a science course. **The 5% weighting for this component is a completion mark once you have completed the Labster lab simulations (see also lab exam component below).**

Virtual Lab Report (5%)

The Virtual lab report will be a report to be submitted for an experiment from the online tutorials. Several practical questions will need to be answered by the student. TAs will post guidance for the virtual lab report. This report will be available partway through the course (deadline TBA).

Midterm Test (20%)

This short auto-graded test of 1h duration will be administered through ONQ and will consist of a combination of multiple choice/fill in the blanks/multiple selection type questions covering module material from weeks 1-6 of the course. The exam will take place in week 7 of the course and will be set for 1h duration. **Please see the course timeline for exact dates.** Anyone who cannot sit the common midterm exam time will be accommodated by reweighting of the final exam but you must contact your instructor about this.

Final Exam (45%) & Lab Exam (10%)

This will be a 3.5 hour Examity proctored final exam. There will be two components:

- 3 hour exam made up of 2 sections: a multiple choice section of 30-40 questions followed by a long answer section on the content contained in the main course materials.

- .5 hour exam on the Virtual Lab material covered in the Labster simulations and the associated readings made up of 15-20 multiple-choice questions.

Proctored Exams

Proctored Exams

When you registered for the course, you indicated the exam centre location.

- Students who have on-campus courses (or course sections) will write their final exams in-person and on-campus. These final exams will be administered* through the central Exams Office.
- Students who have courses (or course sections) that are remote or online, but who have other on-campus courses (or course sections) in their timetable, will write all of their final exams in-person and on-campus. These final exams will be administered* through the central Exams Office.
- Students who have only remote or online courses (or course sections) in their timetable, and who require remote proctoring, will have their exams proctored using Examity.

Remote Proctoring (if applicable)

Selected assessments in this course will use remote proctoring provided by Examity, which is a third-party, cloud-based service that enables the completion of a proctored exam or test from an off-campus location, through onQ. This cloud-based proctoring solution was chosen as part of the approach to maintaining academic integrity when remote proctoring is required.

Queen's has conducted an extensive privacy and security review of Examity and has entered into a binding agreement with terms that address the appropriate collection, use and disclosure of personal information in accordance with Ontario's privacy legislation. You should also take measures yourself to protect your information by keeping your NetID password and challenge questions private, closing all applications prior to starting an exam/test, and ensuring your device is updated and safeguarded against malware. For more information about remote proctoring, please see <http://www.queensu.ca/registrar/students/examinations/exams-office-services/remote-proctoring>

The ASO Exams team will contact you with more information regarding the use of Examity and the technical requirements that you will need to meet. You will also be asked to provide the time zone in which you will be located at the time of your exam.

You will also be offered an opportunity to practice logging into Examity in order to familiarize yourself with the online proctoring experience. Precise details about how remote proctoring will be used in this course can be found in the "Getting Started with Remote Proctoring" content module in onQ.

Location and Timing of Final Examinations

Once the exam schedule has been finalized the exam date will be posted on your SOLUS account. The exam dates for each Term are listed on the Faculty of Arts and Science webpage under "Important Dates." Student exam schedules for the Fall Term are posted via SOLUS immediately prior to the Thanksgiving holiday; for the Winter Term they are posted on the Friday before Reading Week, and for the Summer Term they are individually noted on the Arts and Science Online syllabi. **Students**

should delay finalizing any travel plans until after the examination schedule has been posted. Exams will not be moved or deferred to accommodate employment, travel/holiday plans or flight reservations.

Calculator Policy (if applicable)

As noted in Academic Regulation 9.2, "Calculators acceptable for use during quizzes, tests and examinations are intended to support the basic calculating functions required by most Arts and Science courses. For this purpose, the use of the Casio 991 series calculator is permitted and is the only approved calculator for Arts and Science students."

Grading

All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale:

Queen's Official Grade Conversion Scale

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

Contacting the Teaching Team

The teaching team contact information is located on the Homepage of the course (see "Teaching Team").

For general questions about the course, please post to the Course Questions Forum.

Feel free to help answer your peers' questions on this forum. Most questions are answered within 24 hours.

Please use your Queen's email for inquiries that are more personal in nature, or for issues such as academic accommodations or marking. If you need to have a more detailed conversation, please contact your instructor.

Netiquette

In any course you often communicate with your peers and teaching team through electronic communication. You are expected to use the utmost respect in your dealings with your colleagues or when participating in activities, discussions, and online communication.

Here is a list of netiquette guidelines. Please read them carefully and use them to guide your communication in this course and beyond.

1. Make a personal commitment to learn about, understand, and support your peers.
2. Assume the best of others and expect the best of them.
3. Acknowledge the impact of oppression on the lives of other people and make sure your writing is respectful and inclusive.
4. Recognize and value the experiences, abilities, and knowledge each person brings.
5. Pay close attention to what your peers write before you respond. Think through and re-read your writings before you post or send them to others.
6. It's ok to disagree with ideas, but do not make personal attacks.
7. Be open to being challenged or confronted on your ideas and to challenging others with the intent of facilitating growth. Do not demean or embarrass others.
8. Encourage others to develop and share their ideas.

Queen's Email

The university communicates with students via Queen's email. Please check your email regularly to ensure you do not miss important information related to your course.

Late Assignment Submission Policy

All assignments have a built-in automatic accommodation for all students to use at their discretion. Any assignment answers submitted after the hard deadline will not be accepted. **Hard deadlines have been set with generous due dates and answers are set to be available after those due dates for students to use for study purposes. There are thus no extensions possible for online assignments.** Students should keep to the timeline for suggested due dates for assignments and not leave submission until the last days before the assignments are due in case of server or WiFi issues.

Copyright

Course materials created by the course instructor, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the intellectual property of the instructor. It is a departure from academic integrity to distribute, publicly post, sell or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution, posting, sale or other means of dissemination, without the instructor's express consent. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights.

Academic Accommodations

Queen's University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities.

The Senate Policy for Accommodations for Students with Disabilities was approved at Senate in November 2016. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Queen's Student Accessibility Services (QSAS) and register as early as possible. For more information, please visit the QSAS website

Students with course accommodations should send their accommodation requests to ASO and their instructor as soon as possible to make the appropriate arrangements, using the widget located on the course homepage.

Academic Considerations for Students in Extenuating Circumstances

To submit a Request for Academic Consideration, go to: <https://www.queensu.ca/artsci/undergrad-students/academic-consideration-for-students>.

After you submit your request, it is essential that you contact your instructor(s) to discuss arrangements for completing the academic requirements that you have missed.

Academic consideration is meant to help you manage a **short-term** extenuating circumstance that is beyond your control and could affect your academics. This might be a sudden physical or mental illness, a serious injury or required treatment for yourself or a significant other, bereavement (e.g., death of a family member or close friend), or a traumatic event (e.g., sexual assault, divorce). Another example is an absence due to a significant event, such as participating in a varsity championship or performing at a national or international event.

Academic consideration for an extenuating circumstance may include but is not limited to:

- an excused absence
- a deferral
- an extension
- a modified schedule for assignments, projects, labs, or placements

- an alternative assignment
- a re-weighting of term marks
- permission for an incomplete grade
- course withdrawal without penalty (this requires an appeal to the Associate Dean of Studies)

Your instructor will determine what academic consideration is appropriate for your course based on the academic requirement(s) you may miss and the essential requirements/learning outcomes of the course. All students who receive academic consideration must meet all essential academic requirements/learning outcomes and standards of the course. Academic consideration does not guarantee academic achievement in a course/program.

Situation 1: Requests for academic consideration up to 3 days:

- Each student can make one request for academic consideration for up to 3 days without supporting documentation per academic term (i.e., Fall, Winter, Summer). Any additional requests for academic consideration for up to 3 days will require supporting documentation.
- Requests for academic consideration under 3 days must be submitted as soon as you require academic consideration and no later than 1 day after the 3 day consideration period has ended. (eg. if you are requesting academic consideration for September 10-12, you must have your request submitted into this system by September 13 at the latest).
- Delegates submitting a Request for Academic Consideration for Extenuating Circumstances form and supporting documentation on behalf of a student should contact the Faculty Office at asc.consideration@queensu.ca or 613-533-6000, ext. 75413 to arrange to complete the proper forms.

Situation 2: Requests for academic consideration between 4 days and 3 months:

- Requests for academic consideration between 4 days and 3 months should be made as soon as you require academic consideration.
- All requests for academic consideration between 4 days and 3 months require supporting documentation, which should be submitted within 5 business days of submitting the request or it will be withdrawn.
- All requests for academic consideration for extenuating circumstances between 4 days and 3 months must be submitted before the course has closed/ended.
- Delegates submitting a Request for Academic Consideration for Extenuating Circumstances form and supporting documentation on behalf of a student should contact the Faculty Office to arrange to complete the proper forms.
- If you have questions, please contact the Academic Consideration Team in the Faculty Office at: asc.consideration@queensu.ca or 613-533-6000, ext. 75413.

Situation 3: Requests for academic consideration during final exam periods:

- **All requests** (up to 3 days and between 4 days and 3 months) for academic consideration made during exam periods require supporting documentation.

Situation 4: Request for Excused Absence for Significant Event:

Students who are making a request for academic consideration related to a significant event must follow these steps outlined below. If you are participating in an event at the provincial, national, or international level that is either a Queen's Varsity Athletics event or an event to which you were invited as a distinguished guest, you can complete this form. Please submit requests a minimum of 2 weeks before the sanctioned events or as soon as the event is scheduled.

1. Gather the following information:

- A personal statement about why participation in the event is significant to you/Queen's
- Specific details about what is being missed (i.e., exactly what courses, what tests, what assignments, etc.)
- A copy of the invitation to participate/details about the competitions that determine who is invited
- Any other relevant details about the event (i.e., tournament information, schedules, team details, who is participating)

2. A minimum of two weeks before the sanctioned event, or as soon as the event is scheduled, complete and submit a Request for Excused Absence for Significant Event Form to either:

- Queen's Athletics and Recreation senior management team/Athletics Services Coordinator – Retention (athletics and Recreation Centre, 284 Earl Street), for varsity athletic events OR
- the Vice-Provost and Dean of Student Affairs (Gordon Hall, Room 300, 74 Union Street) for all other significant events
- BISC Students should submit their requests to the Student Services office at the Bader International Student Centre (BISC).

3. Upload your signed form to the Arts & Science Academic Consideration Portal. If you encounter technical difficulties please reach out to asc.consideration@queensu.ca

As soon as possible, follow-up with your instructor(s) either by email or in-person to discuss how you will be making up for the missed academic requirements. This may require you to complete academic requirements prior to being absent for the event.

Academic Integrity

Queen's students, faculty, administrators and staff all have responsibilities for upholding the fundamental values of academic integrity: honesty, trust, fairness, respect, responsibility and courage. These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and their behaviour conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar

(see Academic Regulation 1), on the Arts and Science website, and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Video Conferencing

Synchronous (live) classes will be delivered in this course through Zoom and/or Teams, video conferencing platforms supported by the University. Steps have been taken by the University to configure these platforms in a secure manner. Classes will be recorded with video and audio (and, in some cases, transcription) and will be made available to students in the course for the duration of the term. The recordings may capture your name, image or voice through the video and audio recordings. By attending these live classes, you are consenting to the collection of this information for the purposes of administering the class and associated coursework. If you are concerned about the collection of your name and other personal information in the class, please contact the course instructor to identify possible alternatives.

To learn more about how your personal information is collected, used and disclosed by Queen's University, please see the Notice of Collection, Use and Disclosure of Personal Information.

Computer Requirements

Please note that mobile devices are not recommended for the course as they cause several known issues in onQ.

Computer Specifications

- Windows 8.1 or newer
- OS X 10.13 (High Sierra) or newer
- Dual Core 2 GHz processor
- 4 GB RAM
- Soundcard
- USB headset
- Webcam

Supported Browsers

- Chrome (preferred - latest version)
- Firefox (latest version)
- Safari is not recommended as it causes several known issues in onQ
- Edge is not recommended as it causes several known issues in onQ

Internet Connection

- Wired high speed access: Cable or better
- Wifi is not recommended

Java

- Latest version

Media Player

- HTML5 compatible

Adobe Reader

- Latest Version

Students Studying or Travelling Abroad

If you plan to travel, we strongly recommend that you confirm Internet availability in your host country prior to departure. In the past, students in other countries have been blocked from accessing certain websites relevant to their courses, as well as onQ. It is the responsibility of all students to book travel around course work, as we cannot change the format or timing on assessments or assignments as a result of travel plans.