

Syllabus: CHEM2401 fall 2019/2020

Course Logistics

Class	Introductory Organic Chemistry; M/W/F 8:35-9:25am; Ondaatje Hall, MCCAIN Auditorium 2, 6135 Univ. Ave.
Labs	Once per week, for three hours; starting on Monday 9 th September; ending on Tuesday 3 rd December 2019. All experimental lab work must be completed by Monday 25 th November. Online list of Dalhousie University important dates: http://www.dal.ca/academics/important_dates.html
Cancellations	In the case of an emergency closure of the University, notification will be on the Dalhousie University website and on local radio stations. Notification via the online CHEM2401 Brightspace site will be used to notify students of any other cancellations or date/time changes relating to this course.

Student Accessibility & Accommodation

- The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).
- Information: https://www.dal.ca/campus_life/academic-support/accessibility.html
- A note taker may be required as part of a student's accommodation. There is an honorarium. If you are interested, please contact AASC at 902-494-2836; for more information contact notetaking@dal.ca.
- Please note that our classroom may contain specialized accessible furniture and equipment. It is important that these items remain in the classroom, untouched, so that students who require their usage will be able to fully participate in the class.

Student Code of Conduct

- Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.
- Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Academic Integrity

- At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.
- Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Diversity and Inclusion – Culture of Respect

- Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness.
- Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

- Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St, elders@dal.ca).
- Information: https://www.dal.ca/campus_life/communities/indigenous.html

Staff

Professor	Dr. Alison Thompson (Alison.Thompson@dal.ca , room 439 Chemistry, fourth floor)
Lab Instructors	Ms. Gaia Aish (email Gaia.Aish@dal.ca , office = room 106 Chemistry, first floor) Dr. Reinaldo Moya-Barrios (e-mail rbarrios@dal.ca , room 1053 Chemistry, first floor, near the organic lab)
Senior TA	Nick Bode (present in some labs)

Course Description and Prerequisites for Chem2401

Organic chemistry is introduced through an examination of bonding, conformation and stereochemistry. Spectroscopic methods (MS, IR, ¹H and ¹³C NMR) are used to determine the structures of compounds. Alkanes, alkenes, alkynes and alkyl halides are presented with an emphasis on the mechanisms of their reactions. Prerequisites are CHEM1011 and CHEM1012 (or equivalents), grade of C- or better.

NOTE: for CHEM2402, the prerequisite is CHEM2401 with a grade of C+ or better.

Course Goals and Outcomes

Students passing this course, will be able to:

- safely plan and perform fundamental organic chemistry laboratory techniques (e.g. follow instructions regarding reaction set-up and work-up, recrystallization, thin-layer chromatography, filtration, extraction, reflux, distillation)
- interpret fundamental laboratory results related to organic chemistry
- use IUPAC rules to draw and name organic compounds
- draw and interpret proper Lewis structures, including comprehension of contributing resonance structures
- draw, distinguish and name isomers of organic compounds, including stereoisomers
- predict and justify reactivity of organic compounds as regards to acid/base reactions, substitutions, reductions, oxidations, additions and eliminations; including proposing and drawing reasonable arrow-pushing mechanisms
- create graphs and figures to interpret and explain kinetic phenomenon relating to reactions
- propose reaction sequences and conditions for the preparation of simple organic compounds
- interpret spectra; propose reasonable structures via interpreting mass spectral data and ¹H and ¹³C NMR spectra

Key knowledge or skills expected of students coming into the course

All aspects of the material contained in CHEM1011 and CHEM1012 (or equivalents).

Required Components of CHEM2401

Brightspace	This course uses the Brightspace Learning System for assignments and other resources – be sure that you are registered for the course, so that you can access the CHEM2401 Brightspace site (see the helpdesk staff in the Killam Library Commons if you have problems accessing Brightspace). Brightspace will be used throughout this course. You are encouraged to investigate the site immediately. https://dal.brightspace.com/d2l/login
Attendance	You are required to acquire your own notes through attendance at lectures. Teaching staff will not provide lecture notes. The Brightspace site includes a component called eResorganic: naive students might mistake the use of this resource as an alternative to regular attendance at lecture – do not make this mistake.
Lab Manual	Must be 2019/2020 version – available from the Dalhousie bookstore.
Lab Book	Bound laboratory notebook – available from the Dalhousie bookstore/other.
Safety Glasses	Safety glasses are mandatory for CHEM2401 labs; must have CSA-Z94-3 or ANSI Z87 rating.
Lab Coats	100% cotton, long-sleeved lab coats are mandatory for CHEM2401 labs. Your lab coat must fit properly and must reach to near the knees. Sleeves must not be rolled up. Lab coats and safety glasses are available from the Dalhousie University bookstore, or you can provide your own as long as they meet standards and ratings.
Safety Module	<p>Chemicals and laboratory equipment can pose serious hazards and must be treated with an appropriate amount of caution. Part of your training involves understanding the hazards within a chemistry laboratory and learning the measures that must be taken in order to maximize your safety and that of your peers and teachers.</p> <p>As part of your chemistry laboratory class requirement, you are REQUIRED to successfully complete a Chemistry Safety Module inside the deadline: see the Laboratory Manual for details. Students who do not successfully complete this requirement will not be allowed to continue to perform experiments in any Dalhousie undergraduate chemistry laboratory nor will be allowed to make up any experiments missed. Successful completion of the Safety Module includes reading this General Safety Statement, obtaining a perfect mark (e.g., 5/5) on five online safety quizzes, and completing a safety map in lab for each of the chemistry labs that you occupy. After the completion of these requirements you should feel comfortable working in a chemistry laboratory and have the tools you need to promote a safe laboratory environment. Your lab manual and the Brightspace site both feature information and instructions regarding the Chemistry Safety Module.</p>
WHMIS	WHMIS, or the Workplace Hazardous Materials Information System, is a global harmonized system used to classify and label hazards and regulate handling procedures within industry and academic fields, especially those in science. Regardless of your chosen field of study within science being familiar with WHMIS is a significant asset. As such, the Department of Chemistry requires ALL students participating in their laboratory programs to complete WHMIS 2015 training provided by the Environmental Health and Safety Office. This training course is provided through the Dalhousie College of Continuing Education. Upon completion of your WHMIS 2015 course you will receive a Letter of Completion (as a PDF document) via email from the College of Continuing Education (cceehs@dal.ca) within 3 business days. Please ensure that you register and complete the WHMIS course well in advance of the letter submission deadline. After you have received your Letter of Completion please upload the PDF document to the Brightspace site. Instructions on how to register for the course and upload your letter of completion can be found on the Brightspace Site.
Participation	<p>Drop-in tutorials/office-hours in the Department of Chemistry Concept Room are provided for your usage. Please come prepared to use these opportunities to your benefit: discussing organic chemistry is much easier in person, with a pencil to hand, than via an electronic format.</p> <p>The Brightspace online Discussion Board has been set up to accommodate questions and postings related to each topic. Questions regarding material should be posted on the Discussion Board: other students are welcome to suggest answers and join the discussions. Gaia and Dr. Thompson will monitor the board and interject/clarify only as necessary. Communications not regarding material should be made via regular e-mail to Dr. Thompson.</p>

Recommended Components of CHEM2401

Text-book	<i>Organic Chemistry</i> , Professor P.Y. Bruice, Pearson Prentice Hall, eighth edition, available from the Dalhousie University Bookstore. This text-book has an accompanying study guide/solution manual which is available separately. Page numbers given on the syllabus refer to Bruice (eighth, seventh and sixth editions), but proper use of any modern organic chemistry text-book will suffice for this course, e.g. Wade, Brown and Foote, Solomons and Fryhle, Morrison and Boyd, McMurry, Ege. Many such text-books are available in the Chemistry Resource Centre (room 122) and in the Killam Library (call # QD 251.2). PLEASE NOTE THAT BRUICE WILL BE HEAVILY USED IN CHEM2402, AS WELL AS IN CHEM3601 – good investment!
Supplementary Notes	Concepts in Chemistry CHEM2401 Supplementary Notes – available from the Dalhousie University bookstore. These notes contain useful study material, lots of practice problems (with answers), as well as copies of past exams (questions and answers): highly recommended by previous students.
Model Kit	Students often find that using model kits helps with understanding stereochemistry: available for purchase from the Dalhousie University Bookstore and provided during Organic Concepts hours (room 122).

Getting Help for CHEM2401

Organic Concepts	Starting Monday 9 th September 2019, drop-in Organic Chemistry help sessions will typically be held in the Concept Room, room 122 in the Chemistry Building. Concept Room hours for students of organic chemistry are separate from those for students of first-year chemistry. Note that the hours and location are subject to change. See page 6-7 for detailed day/times. Any changes will be posted on Brightspace.
Office Hours	After-lecture office hours: room 439 Chemistry Building: Mondays and Wednesdays 9.30-11.00am. OR other times, by appointment (e-mail to arrange; Alison.Thompson@Dal.ca); room 439 Chemistry Building.
Before Tests	Tutorials/help sessions will be held prior to the term test and final exam. See page 6-7 for detailed days/times. Any changes will be posted on Brightspace.
For Labs	Lab-office hours: days/times and locations are posted on Brightspace, and on the instructors' office doors. Contact Ms. Gaia Aish or Dr. Reinaldo Moya-Barrios.

General Information for CHEM2401

Resource Centre, Chem Room 122	The Chemistry Resource Centre is open to all students taking chemistry classes. Reference-works are available. The primary role of Teaching Assistants on duty in the Resource Centre is to help first-year students, but they may also be able to answer some questions regarding organic chemistry.
Library	There are many organic chemistry text-books available in the Killam Library. Any modern organic text-book, if used properly, would be helpful for this course. You may find that some text-books explain certain concepts better than your prescribed one. The staff at the library, especially at the Reference Desk, can help you to find the required material.

Course Content of CHEM2401

Topic	Chapter sections refer to <i>Organic Chemistry</i> , Professor P.Y. Bruice, Pearson Prentice Hall, eighth edition – note that the in-book tutorials are very useful as a study tool. Chapter sections for the seventh edition are <i>italicized</i> ; chapter sections for the sixth edition are given in parentheses (like this).
1	Functional groups and nomenclature (both self-taught) 3.1-3.6, 4.2, 5.2 3.1-3.6, 5.2 (2.1-2.7, 3.2, 3.4-3.5)
2	Structures, bonding and acidity Ch1, 2.1-2.9, 2.12, 5.1, 5.3, 8.1-8.16 plus tutorials starting on pages 80, 382 and 563 2.1-2.9, 2.12, 5.1, 5.3, 8.1-8.16 plus tutorials starting on P82 and P392 (1.1-1.25, 1.27, 4.2, 4.14, 7.1-7.10)
3	Isomerism 3.11-3.16, 4.1-4.15, 4.18, 6.14-6.15 plus tutorial starting on page 187 3.10-3.15, 4.1-4.15, 5.4, 6.17 plus tutorial starting on P187 (2.10-2.15, 5.1-5.18)
4a	Substitution reactions 9.1-9.5, 8.13, 9.13, 10.1-10.3, 10.6-10.7, 10.12 plus tutorial starting on page 225 9.1-9.9, 8.18, 11.1-11.3, 11.7, 11.9 plus tutorial starting on P225 (8.1-8.11, 10.1-10.3, 10.7-10.9, 10.11)
4b	Elimination reactions 9.6-9.12, 9.15-9.17, 10.4, 10.9-10.10 10.1-10.7, 10.9-10.11, 11.4, 11.10 (9.1-9.6, 9.8-9.9, 10.4)
4c	Reactions of alkenes 5.1-5.9, 6.1-6.13, 6.16, 10.9-10.10 5.1-5.10, 6.1-6.15, 6.18, 11.7 (3.1-3.9, 4.1-4.14, 5.19, 7.11, 9.10, 20.7-20.9)
4d	Reactions of alkynes 7.1-7.12

7.1-7.12 (6.1-6.12)

5

Characterization

13.1-13.4, 14.1-14.23

14.1-14.4, 15.1-15.22 (13.1-13.3, 14.1-14.13, 14.16-14.20, 14.22)

Online Assignments for CHEM2401

Online assignments are available with CHEM2401 – some are associated with the lab component, and some are associated with the lecture component. The assignments are hosted on CAPA: there is an access link on Brightspace, as well as instructions regarding how to register for CHEM2401 CAPA.

Lecture-based online assignments:

Students may complete as many of the practice/self-tests as they wish, as needed to become familiar with the material. All of the questions in the self-test database are included in the database of questions used to generate the graded assignments, alongside many new questions. Previous students of CHEM2401 **highly recommend** completing the graded online assignments and securing a good score. Completion of the graded assignments is “all or nothing”: either all six count, or none count. Students may take each graded quiz twice, with the best score counting for the overall grading scheme. Different questions will appear in the two graded assignments for any one topic, should students decide to take two assignments. Students get one “try/attempt” per question.

Topic	Deadline for submission
Functional groups	23.59, Tuesday 17 th September 2019
Nomenclature	23.59, Tuesday 24 th September 2019
Structures, Bonding, Acidity	23.59, Tuesday 8 th October 2019
Isomerism	23.59, Tuesday 29 th October 2019
Organic reactions	23.59, Tuesday 26 th November 2019
Characterization	23.59, Tuesday 3 rd December 2019

Nomenclature and Functional Groups – self-taught topics

Students are expected to demonstrate a working knowledge of the nomenclature used for simple organic molecules, alongside common functional groups. Some general directions for this will be given in lectures, but **students are responsible for teaching themselves the rules and applications of chemical nomenclature**; a comprehensive description of the nomenclature rules can be found in the text-book. This material can be practiced very effectively by using the online practice assignments, as well as the exercises in the text-book. The Brightspace site includes additional resources and links. Using the IUPAC RULES, molecules with carbon chains and rings from one to ten atoms, containing the following functional groups: alkanes, alkenes, alkynes, cycloalkanes, cycloalkenes, alkyl halides, alcohols. The IUPAC rules include the groups isopropyl, sec-butyl, tert-butyl, allyl, vinyl, phenyl and benzyl, as well as stereochemical designations (*R*, *S*, *E*, *Z*). You will need to know the common, trivial names and the IUPAC names for such everyday molecules as acetone, acetic acid, methylene chloride, ethyl acetate, chloroform and carbon tetrachloride. This material represents a basic introduction to organic nomenclature.

Laboratory Component of CHEM2401

General Laboratory work (3 hours per week, every week) is an integral part of this class. The lab work will help you to learn and appreciate practical techniques and will help you to understand lecture topics. The detailed running of the laboratories, in the Sproull Organic Chemistry Laboratory 121-125P, will be handled by Ms. Gaia Aish (Gaia.Aish@dal.ca, office room 106) and Dr. Reinaldo Moya-Barrios (e-mail rbarrios@dal.ca, office room 1053), assisted by Teaching Assistants (TAs).

Laboratory classes begin on Monday September 9th, 2019; a detailed schedule is available online and in the Laboratory Manual. Purchase your Laboratory Manual immediately, from the Dalhousie Bookstore, and carefully read at least the introductory pages (Section A) and the details regarding the first experiment. If you do not already have them, please also purchase a lab coat and safety glasses.

M: 13.35-16.25

T: 10.05-12.55

T: 14.05-16.55

W: 9.35-12.25

W: 13.35-16.25

R: 10.05-12.55

R: 14.05-16.55

F: 13.35-16.25

First Day

Your first laboratory session will take place the week beginning September 9th 2019. If you are registered in a lab section that conflicts with another class, please contact Dr. Moya-Barrios before 9th September 2019 (rbarrios@dal.ca). The labs will be preceded by a prelab lecture where laboratory rules and procedures will be presented. **You will carry out Experiment 1 during your first lab. Before you come to the laboratory you must study the experiment, understand the associated techniques and complete the prelab**

exercises for this experiment. During the prelab lecture the teaching assistants will check and mark the required prelab exercises in your notebook. There is no LON-CAPA prelab assignment for Experiment 1.

Laboratory Rules **All students must complete the Safety Module (Brightspace) by September 22nd, 2019, 11.30pm. The due date to complete the 2015 WHMIS training is September 29, 2019, 11:30 pm.** All persons in the Laboratory must wear **100% cotton lab coats** with long sleeves – the lab coat must fit properly and must reach to near the knees. Sleeves must not be rolled up. Lab coats should only be worn in the laboratory work area, and so must be removed when exiting the lab (even for just a few moments, or to go to the bathroom). When transporting your lab-coat, Dalhousie policy requires you to place it in secondary containment such as a dedicated plastic bag, i.e. do not stuff it into your back-pack with other items. Dirty lab coats (not chemically dirtied, but just regular dirt from wearing) should be laundered separately from other items. Chemically soiled lab coats should be treated as such: consult your lab instructor. **CSA-Z94-3 or ANSI Z87 safety glasses** are also required at all times - regular prescription glasses are not an acceptable substitute. Acceptable options include: (a) CSA-Z94-3 prescription safety glasses; (b) wearing contact lenses in combination with CSA-Z94-3 safety glasses; (c) wearing CSA-Z94-3 safety glasses over the top of regular prescription glasses. This is an inviolable rule for YOUR safety. Infraction will mean that you are expelled from the laboratory for that day, and will lose credit for the experiment. Contact lenses may be worn along with safety glasses. **Laboratory gloves** appropriate to the activity/experiment/hazards must also be worn: these are provided in the laboratory (students do not need to acquire their own gloves).

Laboratory Grading To pass CHEM2401, all experiments must be completed and passed. Please note that marks are only awarded for work that YOU yourself have done. Any cheating or copying of work from others (current or previous years) is a serious academic offence.

Your laboratory marks will be graded out of 20 points made up of:

Prelab Exercises/Prelab assignments on LON-CAPA= 4

Report/Grade Sheets = 7

Samples = 3

Lab Quizzes = 6

TOTAL = 20

Regardless of your standing in other parts of the class, you can only get credit for CHEM2401 after you have earned credit for the laboratory (10/20). If you miss a lab and produce an original medical certificate of illness (from a licensed physician) or bereavement, your instructor will arrange for you to make-up the lab. If you know in advance that you will be absent from a particular lab for any reason it is essential that you arrange a make-up date with your instructor before the lab takes place.

Your understanding of the concepts of the CHEM2401 laboratory component may be tested during EVERY quiz, test and examination.

Lab exemptions for this class may be granted only for students who have received a minimum of 12/20 in the laboratory portion of the Dalhousie class and only if the final numerical score in the complete class was greater than 40%. Lab exemptions are only valid until the end of the academic year following that in which laboratory credit was granted. Contact Dr. Moya-Barrios before September 10th 2019.

Term-Tests and Final Exam

General The term-tests and final exam will be "closed book", with no allowed documents, models, calculators, cell phone, headphones, etc. You will be responsible for all of the material covered in class and labs as well as in the sections assigned in the text-book. The two Term-Tests will be held in the Ondaatje Hall, McCain Arts & Social Sciences Building during lecture time. **No make-ups are available.** Students who miss a test do not need to provide documentation to justify their absence, do not need to provide a Declaration of Absence form, and do not need to inform Dr. Thompson of their absence. The best of the Options (see next page) will be applied in calculating all final letter grades. Students are not required to pre-select a grading option. Solutions to term-tests will be posted online after grades have been posted. Grades will be posted online via Brightspace. Students who are ill for the Final Examination must inform Dr. Thompson **prior to the scheduled examination**, and then provide a valid medical certificate. Only one Make-up Final Examination will be arranged (see the University Regulations, Calendar). There is no supplemental examination for CHEM2401.

Term-Test 1 In class, Wednesday, October 2nd 2019, 8.30am

Term-Test 2 In class, Wednesday, November 20th 2019, 8.30am

Final Exam 3 hours, date/time to be determined by the Registrar, topics 1-5, experiments 1-7, entire syllabus

Syllabus: CHEM2401 fall 2019/2020

Organic Concepts – explained

Organic Concepts is a supplemental support of more than 50 hours of help offered by Gaia Aish. To develop your organic chemistry skills these learning sessions will use examples, discussions, practice questions, study strategies and group learning. These sessions are appropriate for any student at any point in their learning. Attendees can expect a positive, respectful and constructive attitude from their instructor and peers. The schedule is outlined on page 7. Please plan ahead and consider how your own schedule impacts when and where you can access help throughout the term.

- Organic Drop-in** These are drop-in help times held in the Concept Room (CR). Come for an hour or five minutes. Bring your own questions, topics or lecture points that you wish to clarify or work on. If you show-up without a question that is okay! In this case, we can figure out where to start together.
- Test/Exam Prep** During these sessions test-like questions will be posted. We will try them together and talk about anything and everything relevant. This is an informal setting where audience questions and chatter are expected and welcome. You will have chance to ask one-on-one questions at the end of these sessions. Please note that on December 4th two exam prep sessions are offered. Each session is the same: ideally you will be able to attend one of them.
- Foundation Skills Catch Up** Much of why people sometimes feel unsuccessful in this course is due to weak skills from previous classes, often leading to poor results on Test 1. During this session we will practice the basics and work our way up! This session is typically very popular and is a must for anyone wishing to greatly improve their skills before Test 2.
- Synthesis Workshop** During this tutorial you complete a worksheet while working with your lab peers and with model kits to reinforce the more difficult aspects of reactivity. The worksheet is not graded. Your lab TA and instructor will be present to help you. You are expected to participate in this workshop as part of the mandatory lab component of this course.
- Tackling Characterization** You've got all the information, but do you have a good workflow? Make sure you know some strategies for solving these puzzles. Good characterization skills are important for all scientists. As such, they are major component of the exam.
- Mechanism Wrap Up** By the end of the course you will know ten organic reaction mechanisms: we will revisit them all.

Syllabus: CHEM2401 fall 2019/2020

Organic Concepts – schedule by day

	Monday	Tuesday	Wednesday
September	9 11-12pm Organic Drop-in, Lecture & lab help offered	10 4-5:45pm Organic Drop-in Lecture & lab help offered	11 11-12pm Organic Drop-in, Lecture & lab help offered
	16 11-12pm Organic Drop-in Lecture & lab help offered	17 4-5:45pm Organic Drop-in Lecture & lab help offered (11:59pm CAPA due)	18 11-12pm Organic Drop-in Lecture & lab help offered
Starting on the 23rd, please seek lab help during lab office hours. Organic Concepts will be reserved for lecture support.			
	23 11-12pm Organic Drop-in	24 4-5:45pm Organic Drop-in (11:59pm CAPA due)	25 11-12pm Organic Drop-in
September /October	30 11-12pm Organic Drop-in	1 4-5:45pm Organic Drop-in (CR) 7-9pm ScotiaBank Aud., Test Prep	2 Test 1, in Lecture (No Organic Drop-in)
	7 11-12pm Organic Drop-in	8 4-5:45pm Organic Drop-in (11:59pm CAPA due)	9 11-12pm Organic Drop-in
	14 University Closed	15 (No Organic Drop-in)	16 11-12pm Organic Drop-in
	21 11-12pm Organic Drop-in	22 (No Organic Drop-in) 7-9pm ScotiaBank Aud., Foundation Skills Catch Up	23 11-12pm Organic Drop-in
October / November	28 11-12pm Organic Drop-in	29 4-5:45pm Organic Drop-in (11:59pm CAPA due)	30 11-12pm Organic Drop-in
	4 11-12pm Organic Drop-in	5 4-5:45pm Organic Drop-in	6 11-12pm Organic Drop-in
Study Week!	11 University Closed	12	13
	18 11-12pm Organic Drop-in	19 4-5:45pm Organic Drop-in (CR) 7-9pm ScotiaBank Aud., Test Prep	20 Test 2, in Lecture (No Organic Drop-in)
Synthesis Workshop, during your regular lab period, Nov. 26th-Dec. 2th			
	25 11-12pm Organic Drop-in	26 4-5:45pm Organic Drop-in (11:59pm CAPA due)	27 11-12pm Organic Drop-in
December	2 (No Organic Drop-in) 7-9pm LSC 242, Tackling Characterization	3 4-5:45pm Organic Drop-in 7-9pm ScotiaBank Aud., Mechanism Wrap Up (11:59pm CAPA due)	4 1-4pm OR 6-9pm ScotiaBank Aud., Exam Prep

Syllabus: CHEM2401 fall 2019/2020

Overall Grading Scheme

Under emergency circumstances that have a serious impact on the delivery of this class there may be a need to alter the syllabus. It is each student's responsibility to notify the professor of this class regarding illness within 48 hours of becoming sick.

Lab Regardless of your standing in other parts of the class, you can only gain credit for CHEM2401 after you have earned credit for the laboratory component (pass = 10/20).

Final exam Regardless of your standing in other parts of the class, you can only gain credit for CHEM2401 after you have earned a passing grade (D or above) in the Final Examination. i.e. you must pass the final exam.

University Grading Practices https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Conversions follow the Dalhousie Common Grade Scale	A+ = 90-100	A = 85-89	A- = 80-84
	B+ = 77-79	B = 73-76	B- = 70-72
	C+ = 65-69	C = 60-64	C- = 55-59
	D = 50-54	F = 0-49	

Grading Options

CHEM2401 has three grading options, as detailed below. All grading options are calculated automatically, and the best letter grade for each student is then applied: students do not need to pre-select a grading option.

Option 1 Lecture-based online assignments: 0%
Term-Test 1: 10%
Term-Test 2: 10%
Laboratory: 20%
Final exam: 60%

Option 2 Lecture-based online assignments: 10%
Term-Test 1: 0%
Term-Test 2: 10%
Laboratory: 20%
Final exam: 60%

Option 3 Lecture-based online assignments: 10%
Term-Test 1: 10%
Term-Test 2: 0%
Laboratory: 20%
Final exam: 60%

Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Research Lab Safety https://www.dal.ca/content/dam/dalhousie/pdf/dept/safety/lab_policy_manual_2007.pdf

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>