

## Course Syllabus – CHEM 2421 (Fall 2023)

### Introductory Organic Chemistry: Structure and Properties

<b>Instructor:</b>	Ghislain Deslongchamps	<b>Class Day(s):</b>	MWF
<b>Email:</b>	ghislain[at]unb.ca	<b>Time:</b>	9:30-10:20
<b>Phone:</b>		<b>Class Location:</b>	Carleton 106
<b>Office Location:</b>	Toole 237	<b>Office Hours:</b>	See below

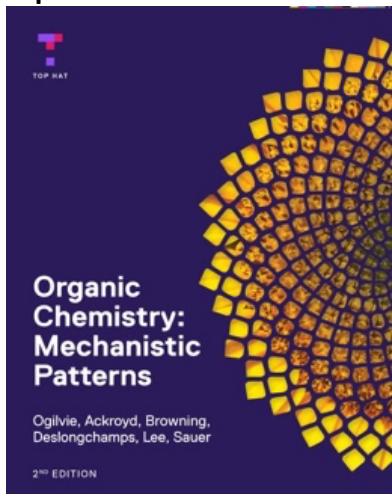
*We recognize and respectfully acknowledge that all UNB course interactions take place on surrendered and unceded traditional lands of the Wolastoqiyik.*

## About the Course

### Course Description:

**Introductory Organic Chemistry: Structure and Properties.** 3 ch (3C) An introduction to the structural and conformational features of organic molecules, and the effect of functional groups on molecular properties. This course is not equivalent to [CHEM 2401](#); however, credit cannot be obtained for both [CHEM 2401](#) and CHEM 2421.

### Required textbook:



**Organic Chemistry - Mechanistic Patterns**, W. Ogilvie, N. Ackroyd, C. S. Browning, G. Deslongchamps, F. Lee, E. Sauer, 2<sup>nd</sup> Ed., Top Hat, 2021, [ISBN-13: 9781774940419](#).

This comprises the fully interactive eTextbook with 21 chapters, integrated Organic ChemWare (G. Deslongchamps, 2021), required online homework, and practice problem sets.

[https://docs.google.com/document/d/1XUzcwePS3vefwvjqlgNHpVHnDJIAzO75tHXSS1NN\\_Ho/edit](https://docs.google.com/document/d/1XUzcwePS3vefwvjqlgNHpVHnDJIAzO75tHXSS1NN_Ho/edit)

Note: This eTextbook will also be used for the follow-up course, CHEM 2422, in Winter 2024.

### Optional course resources:

- **Avogadro** (<https://avogadro.cc/>) is a free molecular viewer for interacting with 3D models used in class. PC and Mac installers are available in the course D2L in the 3D Models folder.

- Physical molecular modeling kit (UNB Bookstore or <https://www.amazon.ca>).

- Free online molecular modeling kit (draw 2D molecules, convert to 3D structures, etc.):  
<http://biomodel.uah.es/en/DIY/JSME/draw.en.htm>

### Course Topics:

Course topics will be selected from the following list:

- Carbon and Its Compounds
- Anatomy of an Organic Molecule
- Molecules in Motion: Conformations by Rotations
- Stereochemistry
- Organic Reaction Mechanisms
- Acids and Bases
- $\pi$  Bonds as Electrophiles
- $\pi$  Bonds as Nucleophiles

### Learning outcomes:

- Understand the fundamentals of bonding in organic molecules, including making and breaking of the bonds that occur during a reaction.
- Understand the various representations, or “cartoons”, that organic chemists use to depict the structure of molecules in both 2D and 3D.
- Understand how the structure of an organic molecule determines its physical (e.g. melting point, solubility) and chemical properties (e.g. acid-base properties).
- Understand the structural factors in a molecule that determine reactivity patterns and how to use them in predicting the reactivity between molecules.

Successfully achieving all the course outcomes and expectations requires that you honour the course policies, attend regular classes, and complete all coursework in good faith and on time.

## Live lectures

This course will be delivered exclusively via live lectures in Carleton 106 every MWF 9:30-10:20. Class attendance is an important factor for success in this course. Some lecture slots may be reserved for tutorials or or class exercises. Lecture slides will be available as pdf files prior to each lecture for printing/annotating.

## Communicating with your instructor / Office hours

### Communicating with your instructor:

- If you have questions or comments of any type (courses, academic advising, or anything else), please email me anytime at [ghislain@unb.ca](mailto:ghislain@unb.ca). You can expect an email response within a day. Emails received on weekends may not be replied until Monday.
- A Teams meeting can also be arranged if your query cannot be addressed by email.
- Brightspace Desire2Learn (D2L) will be used to provide course materials and other information. However, do not use the D2L communication features; they will not be monitored by me.
- Likewise, do not contact me through Teams outside of normal class or office hours unless an appointment to do so was previously setup.

### Office hours:

- I will be available in my office (Toole 237) every Monday from 1:30-3:30. My MS Teams will also be on during that period. If your course schedule conflicts with this time slot, please email me to arrange a face to face or Teams meeting at another time.

## Online Materials

### Top Hat interactive eTextbook

This fully interactive eTextbook includes all 21 textbook chapters, 185 Organic ChemWare animations as well as graded online homework and other learning activities. Information on how to purchase, register, and access the eTextbook can be found at:

[https://docs.google.com/document/d/1XUzcwePS3vefwvjqIqNHpVHnDJIazO75tHXSS1NN\\_Ho/edit](https://docs.google.com/document/d/1XUzcwePS3vefwvjqIqNHpVHnDJIazO75tHXSS1NN_Ho/edit)

Top Hat student support:

- Email: [support@tophat.com](mailto:support@tophat.com)
- Live Chat: Located in the top right corner of your Top Hat Account
- Support Success Centre: <https://support.tophat.com/s/>
- Phone: (888) 663-5491

### D2L Brightspace

Online course materials can be found in D2L. You can access it through the MyUNB portal for single login to all UNB services (<https://my.unb.ca>) or directly at <https://lms.unb.ca/>.

Online components in D2L may include:

- Class information
- Weekly Schedule
- Molecular models
- PowerPoint lectures (pdf)
- Articles (pdf)

## Course Evaluation, Grading, and Course Policies

### Course Evaluation Scheme

Item	Value	Date Due	Details
Top Hat Assignment #1	5%	Oct. 6, 2023	Online assignment on Top Hat. Instructions will be provided in class.
Class test #1	20%	Oct. 13, 2023	9:30-10:30. Carleton-106. Covers preceding ≈ 6 weeks of classes.
Top Hat Assignment #2	5%	Nov. 10, 2023	Online assignment on Top Hat. Instructions will be provided in class.
Class test #2	30%	Nov. 17, 2023	9:30-10:30. Carleton-106. Covers preceding ≈ 6 weeks of classes.
Final exam	40%	Exam period, TBA	3-hour exam. Closed-book. Covers <u>all</u> topics.

During tests and final exam, access to any resources, printed or online, as well as any form of communication, is strictly forbidden.

**Grading:**

A+ 90%, A 85%, A- 80%, B+ 74%, B 68%, B- 62%, C+ 56%, C 50%, D 40%, F <40%

## Course Policies

**Expectations for participation and attendance**

It is expected that students will attend all the live lectures. These may include course material not available on D2L. Students are expected to participate and to contribute to classroom discussions: <https://www.unb.ca/academics/calendar/undergraduate/current/regulations/universitywideacademicregulations/i-generalcourseregulation/a.classattendance.html>.

**Extensions or penalties for late work, missed exams, late for test/exam**

There will be no extensions for online assignments and no make-up opportunities for in-class tests. A missed assignment or test will have its value automatically transferred to that of the final exam. <https://www.unb.ca/academics/calendar/undergraduate/current/regulations/universitywideacademicregulations/i-generalcourseregulation/a.classattendance.html>.

**Policy on extra credit**

Students may not receive extra credit for any component of this course. The final course grade will be strictly calculated based on accumulated assignment, test, and final exam scores.

**Class Recording and Copyright**

Video/audio recording of lectures is strictly prohibited. In the case of private use by students with documented disabilities, the instructor's consent will not be unreasonably withheld. Distribution of course notes, videos or other class materials provided by the instructor by any means is strictly prohibited. Violations are an infringement of copyright and are absolutely prohibited and subject to academic penalties (see Academic Offences below).

**Privacy Statement for Online Course Recordings**

- The content shared by your instructor is subject to copyright and cannot be shared without the explicit permission of the copyright owner, which may include but not be limited to the course instructor, their colleagues, textbook publishers, and multimedia vendors.
- Any recordings of online classes provided by your instructor are for your personal use for course purposes only and not to be shared with others.
- Sharing of any personal information, including but not limited to personal views and opinions with others, other than for course purposes, is not permitted and may violate UNB's Policy for the Protection of Personal Information and Privacy.

- Personal opinions, views, and commentary provided during online delivery may be considered personal information, which requires the consent of the person who provided it to share it ethically and legally. Course videos are to be used only to help you learn the course material.

### Email Etiquette

Please view this short video on email etiquette:

[https://www.youtube.com/watch?v=r\\_jL94Q66E4&feature=youtu.be](https://www.youtube.com/watch?v=r_jL94Q66E4&feature=youtu.be)

## Key Technologies

### Microsoft 365

As a UNB student you are entitled to install Microsoft 365 (M365), which includes Word, Excel, PowerPoint, Teams, OneNote, and others. M365 can be accessed through your MyUNB portal ([my.unb.ca](http://my.unb.ca), UNB login required).

Note: M365 can be run as cloud-based applications on a web browser or as traditional standalone applications that can be downloaded and installed on your computer (PC/Mac). Some of these are available as simpler apps for mobile platforms (iOS/Android) but may not support all the features of their standalone counterpart.

<https://unbcloud.sharepoint.com/sites/UNBO365/SitePages/Studying-Remotely.aspx>

*(UNB login required)*

M365 includes MS Teams which, on occasion, may be used to communicate with students regarding student questions and discussions.

### Desire2Learn Brightspace (D2L)

D2L is UNB's learning management system. Information about using D2L is available at:

<https://www.unb.ca/fredericton/cetl/tls/educational/d2l/student-resources.html>

For D2L technical support, contact: [d2l@unb.ca](mailto:d2l@unb.ca)

### Crowdmark

Crowdmark is an online system that you may be using to complete assessments. Information about using Crowdmark is available here:

[https://www.unbtl.ca/itl/pdfs/Crowdmark\\_Student\\_QuickStart\\_Guide.pdf](https://www.unbtl.ca/itl/pdfs/Crowdmark_Student_QuickStart_Guide.pdf)

### Avogadro

- **Avogadro** (<https://avogadro.cc/>) is a free molecular viewer for interacting with 3D models used in class. PC and Mac installers are available in the course D2L in the "3D Models" folder. All 3D molecular models shown in class can be downloaded from that folder (ex. filename.mol2) and opened in Avogadro for study purposes.

## Technical Requirements

### Technical Preparation and Requirements

Please note that you are responsible for ensuring that the technical requirements are met so that you can fully participate in all course learning activities.

Whether studying on or off-campus, all students must have access to a PC, Mac (or tablet) capable of internet access. Information on IT services and software for UNB students can be found at:

<https://unbcloud.sharepoint.com/sites/ITServices/SitePages/StudyRemotely.aspx>

## General Technical Support

For general technical support, please contact Information Technology Services (ITS) Help Desk at [helpdesk@unb.ca](mailto:helpdesk@unb.ca) or by phone (UNBF: 457-2222, UNBSJ: 657-2222 or visit in person at the Harriet Irving Library Learning Commons.

## Library information

UNB Libraries ([www.lib.unb.ca](http://www.lib.unb.ca)) supports your learning and academic success. Librarians will help you navigate academic resources and guide you through your research and information needs. Examples of this support include finding reliable sources for your assignments, searching the scholarly databases, and offering advice on the quality of your research. A vast collection of resources is available to you online and in print at [lib.unb.ca](http://lib.unb.ca). Research help is available by phone, e-mail, chat, and in-person. The Harriet Irving Library (HIL) is the main library at UNBF. The UNBSJ library is in the Hans W. Klohn Commons.

The libraries offer quiet and group study space. Book a Group Study Room online at [http://www.lib.unb.ca/services/group\\_study.php](http://www.lib.unb.ca/services/group_study.php)

## Equity, Diversity, and Inclusion

- UNB embraces the idea of an intellectual community enriched by diversity along a number of dimensions, including gender, gender identity, sexual orientation, age, culture, ability, race, ethnicity, language, religion, and nationality. It is my intent that all students be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity students bring to this class be viewed as a resource, strength, and benefit. I intend to provide materials and activities that are respectful of diversity. Your suggestions are encouraged and appreciated. In addition, if any of our class meetings conflict with your religious holidays, please let me know so that we can make arrangements for you.

- Location of gender-neutral washrooms on campus:

<https://www.unb.ca/humanrights/resources/index.html>

- Office of Human Rights and Positive Environment: <https://www.unb.ca/humanrights/index.html>

### Services for Students with Disabilities

If you are a student with a disability of any type (physical, mental, learning, medical, chronic health, sensory; visible or invisible) you are strongly encouraged to register with the UNBF Student Accessibility Centre (SAC) (<https://www.unb.ca/fredericton/student-services/academic-success/accessibility-centre/>) so that you may receive appropriate services and accommodations. Once you are registered with SAC, the instructor will be notified via the UNBF SAC Accommodation Letter of your specific accommodations. If you would like to discuss your particular needs with the instructor, please book a time for a confidential appointment.

### Plagiarism and Academic Offences

The university has carefully defined what it considers plagiarism, and these regulations are found in the UNB calendar section B.19 IX Academic Offences:

Plagiarism includes:

1. quoting verbatim or almost verbatim from any source, regardless of format, without acknowledgement;
2. adopting someone else's line of thought, argument, arrangement, or supporting evidence (such as, statistics, bibliographies, etc.) without indicating such dependence;
3. submitting someone else's work, in whatever form (essay, film, workbook, artwork, computer materials, etc.) without acknowledgement;
4. knowingly representing as one's own work any idea of another.

**NOTE:** In courses which include group work, a penalty may be imposed on all members of the group unless an act of plagiarism is identified clearly with an individual student or students.

Please note that plagiarism is not difficult to spot; web sources can be quickly traced through a variety of specialty search engines. Professors are required to follow the disciplinary procedures outlined in the calendar (B.17. IX. A. 1-2).

**OTHER ACADEMIC OFFENCES** you need to be aware of include:

1. Cheating on examination, tests, assignments, or reports, including but not limited to:  
Impersonating a candidate at an examination or test or in connection with any assignment in a course or availing oneself of the results of impersonation.  
Obtaining, through theft, bribery, collusion, purchase, or other improper manner,
  1. an examination or test paper prior to the date and time for writing the examination or test;
  2. academic materials belonging to another person, e.g., laboratory reports, assignments, papers, computer materials, datasets.
2. Falsifying or knowingly submitting false assignments or credentials, records, transcripts, or other academic documents.
3. Submitting a false health or other certificate.

4. Submitting identical or substantially similar work for one course or program of study, which has been or is being submitted for another course or program of study, without the prior express knowledge and approval of the instructors.
5. Interfering with the right of other students to pursue their studies.
6. Knowingly aiding or abetting any of the above offences.
7. Tampering with, or altering, in any deceptive way, work subsequently presented for a review of the grade awarded.

Penalties for plagiarism and other academic offences range from a minimum of F (zero) in the assignment, exam, or test to a maximum of suspension or expulsion from the University, plus a notation of the academic offence on the student's transcript.

For more information, please see the Undergraduate Calendar, University Wide Academic Regulations, Regulation VIII.A, or visit: <http://go.unb.ca/tlsPb0XX5>. It is the student's responsibility to know the regulations.