



# **BIOC\*2580 Introduction to Biochemistry**

Fall 2021

Section(s): C01

Department of Molecular and Cellular Biology

Credit Weight: 0.50

Version 3.00 - September 08, 2021

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## **1 Course Details**

### **1.1 Calendar Description**

This course introduces students to the evolution, chemical structure, and biological roles of the major molecular components of the cell: including proteins, nucleic acids, lipids, and carbohydrates. Topics and processes integrated through understanding biological macromolecules include enzymology and intermediary metabolism, with emphasis on catabolic processes. Students will gain basic investigative skills through hands-on experiences in a laboratory setting.

**Pre-Requisites:** CHEM\*1050

### **1.2 Timetable**

#### **Lectures**

Section I: Tuesdays and Thursdays 8:30 AM to 9:50 AM (Eastern Standard Time)

Section II: Tuesdays and Thursdays 11:30 AM to 12:50 PM (Eastern Standard Time)

Live synchronous virtual lectures via ZOOM.

Following each lecture, a recording will be posted on CourseLink for asynchronous viewing by students

All material covered in lectures is the responsibility of the student, including announcements regarding midterms, labs, and exams.

### **Hybrid Lab Format:**

Labs 1 and 2 will be in-person; labs 3, 4, and 5 will be online.

In-person labs will be held in lab room SSC 3110/3111/3112. The section distribution for in-person Labs is posted on Courselink under "Labs" and can also be found under "Lab Schedule" on this document

Online Labs will open for all students on Monday at 9 am and close on Friday at 5 pm of that week. There will be Lab help sessions via Zoom during the week.

Please note the proposed course format, schedule or location for the Fall 2021 semester may change up to the first day of classes due to personnel, resource, and public health circumstances and if conditions cannot be met to ensure the safety of our students and instructors. Continue to watch the Student Planning website as format information could be updated until the first day of classes.

## **1.3 Final Exam**

Date: Tuesday, December 14, Start time 8:30 AM

The final exam is 2 hrs in length and the window of access will be from 8:30-9:30 AM

Online through Courselink Quizzes (Using Respondus Lockdown Browser + Monitor)

## **2 Instructional Support**

### **2.1 Instructional Support Team**

<b>Instructor:</b>	Dr. Enoke Wijekoon
<b>Email:</b>	bioc2580@uoguelph.ca
<b>Telephone:</b>	+1-519-824-4120 x56095
<b>Office:</b>	SSC 3517
<b>Office Hours:</b>	Tuesday and Thursday 2:00-3:30 pm (via Zoom)

**Lab Co-ordinator:** Jaspreet Kaur  
**Email:** bioc2580@uoguelph.ca  
**Telephone:** +1-519-824-4120 x58220 (office)  
**Office:** SSC 3521  
**Office Hours:** Send an email to jkaur@uoguelph.ca to book an appointment.

For any lab related issue send an email to bioc2580@uoguelph.ca and always write "LAB" and your Lab section number in the subject line

## 3 Learning Resources

### 3.1 Recommended Resources

#### Lehninger Principles of Biochemistry (Textbook)

The following text is **recommended**, especially if you also intend to take the second biochemistry course, BIOC\*3560 Structure and Function in Biochemistry. It is also used in several other senior biochemistry courses:

Lehninger Principles of Biochemistry; D.L. Nelson and M.M. Cox, 8th ed. (2021) **OR** 7<sup>th</sup> ed. (2017) W.H. Freeman, NY.

Multiple copies of this textbook are on Reserve in the library. An ebook is also available to be borrowed on a single user basis.

There are multiple options, each containing the same information, but in different formats:

1. The loose-leaf textbook bundled with Achieve\* (Achieve 1 or 2-Term Access)
2. Achieve Online for Lehninger Principles of Biochemistry (gives access to ebook for 24 months) (Achieve 1 or 2-Term Access)

\*Achieve is the publisher's Online platform. It gives access to all online resources associated with the text book and the ebook. Use it for self study. It will NOT be used in the course to assign homework or for evaluation purposes.

Loose leaf versions cannot be resold as a used textbook at the Bookstore. **BE AWARE: With the eBook, you are purchasing access to the electronic version for a specific period of time; once this is over, you will not be able to access the eBook.**

## 3.2 Getting Help in BIOC\*2580

Course Email: bioc2580@uoguelph.ca

You can make use of the course e-mail address to ask questions. Only use your @uoguelph account when sending messages to this address. Enquiries regarding the laboratory should have the word LAB in the subject line. **E-mail may not be answered outside of office hours.**

Supported Learning Group (SLG)

SLGs are free study sessions led by students. These trained SLG Leaders sit in on lectures and run sessions that are informal, flexible, and fun. Students who make regular use of the SLG have a higher average grade on this course than those who do not. SLG information and schedules are available in CourseLink. SLG sessions this semester will be held via Courselink Virtual Classroom. See registration information and link on the BIOC\*2580 courselink homepage.

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## 4 Learning Outcomes

### 4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Describe the structures and the chemical properties of the 20 amino acids.
2. Describe the methods used in the separation of amino acids and proteins based on their chemical properties.
3. Describe the first three levels of protein structure and explain how protein structure is influenced by the amino acid sequence.
4. Explain how enzymes catalyze reactions and how enzyme activity is affected by inactivators and inhibitors.
5. Describe the structure and the chemical properties of carbohydrates (monosaccharides and disaccharides), lipids (fatty acids, triglycerides and glycerophospholipids) and nucleic acids (RNA and DNA).
6. Describe the chemical reactions involved in the generation of ATP through the oxidation of glucose and fatty acids.
7. Apply several of the knowledge outcomes in 1-6 by effectively carrying out laboratory procedures to collect, properly record and analyse experimental data.

8. Manage time effectively and follow instructions to meet deadlines for course requirements.
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## 5 Teaching and Learning Activities

### 5.1 Lecture Schedule

Lectures – Live synchronous virtual lectures via ZOOM. Following each lecture, a recording will be posted on CourseLink for asynchronous viewing by students

\* Textbook Section

Class	Date	Topic	Lehninger (7th ed)	Lehninger (8th ed)
1	Sept 9	Biological polymers; building blocks and hydrolyzable bonds. Amino acids, peptides and proteins.	12-16; 75-76; 85-86	(1.2)* 10-14; (3.1) 70-71; (3.2) 80-81
2	Sept 14	Amino acids, peptides and proteins (continued), Polarity and ionization of amino acids	75-85; 47-50; 58-65	(Ch 3; 3.1) 70-80; (Ch2; 2.1) 43-46; (2.2; part of 2.3) 53-61
3	Sept 16	Separation of amino acids and proteins by chromatography	47-50; 58-65	43-46; 53-61
4	Sept 21	More analytical methods; Polypeptides and proteins: structural hierarchy, sequence. Basis of reactivity and hydrolysis	89-96; 96-102	(3.3) 83-90; 90-95

<b>Class</b>	<b>Date</b>	<b>Topic</b>	<b>Lehninger (7th ed)</b>	<b>Lehninger (8th ed)</b>
	<b>Sep 22-28</b>	<b>Quiz 1 (Lectures 1-4) (Online via Courselink Quizzes)</b>		
5	Sept 23	Sequence determination, Secondary structure: $\alpha$ -helix, $\beta$ -sheet,	96-102; 115-125	90-95; (Ch4; 4.1;4.2) 106-116
6	Sept 28	Secondary structure: $\alpha$ -helix, $\beta$ -sheet (continued)	115-125	106-116
7	Sept 30	Principles of tertiary structure. Protein stability and function	125-141; 187-198	(4.3) 106-128; (Ch6; 6.1; 6.2) 177-188
8	Oct 5	Binding and recognition of substrates and specificity of enzymes; The basis of chemical and enzymatic catalysis.	187-198	177-188
	<b>Oct 6-13</b>	<b>Quiz 2 (Lectures 5-8) (Online via Courselink Quizzes)</b>		
9	Oct 7	Mechanism of action of chymotrypsin, Enzyme assay and detection	213-217; 95-96; 203	(6.4) 203-208; (3.3) 89-90; (6.3) 192-193
10	Oct 14	Enzyme assay and detection (continued), Enzyme kinetics	198-213	(6.3; 6.4) 188-203
11	Oct 19	Experimental enzyme kinetics: linear plots, Enzyme inhibition and regulation.	198-213	(6.3; 6.4) 188-203

Class	Date	Topic	Lehninger (7th ed)	Lehninger (8th ed)
12	Oct 21	Enzyme inhibition and regulation (continued), REVIEW SESSION	198-213	(6.3; 6.4) 188-203
	<b>Oct 23</b>	<b>Midterm Examination; Online through Courselink Quizzes (Requires Respondus Lockdown Browser + Monitor); Open 1:00-2:00 PM</b>		
13	Oct 26	Lipids: fatty acids	361-364	(Ch 10;10.1) 341-344
14	Oct 28	Lipids: triacylglycerols, phospholipids; Analysis of lipids; Carbohydrate chemistry: simple sugars	364-369; 381-383;241-243	(10.1;10.2) 344-348;(10.4) 361-362; (Ch7; 7.1) 229-233
15	Nov 2	Carbohydrate Chemistry: linear and ring structures, Reducing sugars	243-247; 249	(7.1) 233-235; 237
16	Nov 4	Carbohydrate chemistry: glycosides, di and polysaccharides, Nucleic acid chemistry (RNA & DNA): nucleotides and polynucleotides	250-252; 279-285	(7.1) 237-241; (Ch8; 8.1) 263-269
	<b>Nov 5-11</b>	<b>Quiz 3 (Lectures 13-16) (Online via Courselink Quizzes)</b>		
17	Nov 9	The DNA double helix, ATP as cellular energy currency	285-287; 507-514	(8.2) 269-272; (13.3) 479-485

<b>Class</b>	<b>Date</b>	<b>Topic</b>	<b>Lehninger (7th ed)</b>	<b>Lehninger (8th ed)</b>
18	Nov 11	ATP as cellular energy currency (continued), Introduction to metabolism; Redox reactions	507-514; 491-494; 517-522	479-485; (Part II) 461-464; (13.4) 488-492
19	Nov 16	Adenosine containing cofactors: Catabolism of Fats- fatty acid beta oxidation	621; 522-526; 649-650; 652-659	576; (13.4) 492-496; (8.1) 294-295; (Ch17) 601; (17.1) 603-611
20	Nov 18	Fatty acid beta oxidation contd.; Glycolysis: anaerobic energy generation	652-659; 533-545; 548	603-611; (Ch 14) 510-521
	<b>Nov 19-25</b>	<b>Quiz 4 (Lectures 17-20) (Online via Courselink Quizzes)</b>		
21	Nov 23	Fates of pyruvate; Shuttle systems conveying cytosolic NADH to mitochondria, Pyruvate dehydrogenase complex, The Citric Acid Cycle	619-624; 739-740; 553-558; 619; 624-636	(14.3) 525-526; 530-533; (Ch16) 574-578; (Ch19) 683-686; (Ch16) 574-575;(16.2) 578-589
22	Nov 25	Citric acid cycle cont.; The electron transport chain	624-636; 7711-724	(16.2) 578-589; (Ch19) 659-672



Class	Date	Topic	Lehninger (7th ed)	Lehninger (8th ed)
23	Nov 30	Chemiosmotic energy transduction; ATP synthase	724-728; 728-739	672-674; 674-683
24	Dec 2	ATP Synthase; Efficiency of oxidative phosphorylation	728-739; 657-659	674-683; 609-611
	<b>Dec 14</b>	<b>Final Examination. Online through Courselink Quizzes (Requires Respondus Lockdown Browser + Monitor); Open 8:30-9:30 AM</b>		

## 5.2 Lab Schedule (Subject to Change)

<b>LAB SCHEDULE-BIOC*2580 F'21</b>	
<b>Labs 1 and 2 will be in-person, whereas Labs 3, 4 and 5 will be online.</b>	
Dates	Activity / Section/ Group* (*see at the bottom of the table)
Sept 13- Oct 8	Safety Quiz, Micropipetting Quiz and Lab 1 Quiz - Online via Courselink Quizzes (ALL SECTIONS)
Sept 13- 17	Lab 1- Separation and Identification of Amino Acids (In SSC Room 3110/3111/3112) GROUP A
Sept 20-	Lab 1- Separation and Identification of Amino Acids (In SSC Room

<b>LAB SCHEDULE-BIOC*2580 F'21</b>	
24	3110/3111/3112) GROUP B
Sept 27- Oct 1	Lab 1- Separation and Identification of Amino Acids (In SSC Room 3110/3111/3112) GROUP C
Oct 4-8	Lab 1- Separation and Identification of Amino Acids (In SSC Room 3110/3111/3112) GROUP D
Oct 11-15	No Labs
Oct 18- Nov 12	Lab 2 Quiz - Online via Courselink Quizzes (ALL SECTIONS)
Oct 18-22	Lab 2- Separation and Quantification of Proteins (In SSC Room 3110/3111/3112), GROUP A
Oct 25-29	Lab 2- Separation and Quantification of Proteins (In SSC Room 3110/3111/3112) GROUP B
Nov 1-5	Lab 2- Separation and Quantification of Proteins (In SSC Room 3110/3111/3112), GROUP C
Nov 8-12	Lab 2- Separation and Quantification of Proteins (In SSC Room 3110/3111/3112), GROUP D

<b>LAB SCHEDULE-BIOC*2580 F'21</b>	
Nov 15-19	Lab 3: Enzyme Kinetics (Virtual) and Lab 3 Quiz via Courselink Quizzes (ALL SECTIONS)
Nov 22-26	Lab 4- Determination of Iodine number of Lipids (Virtual) and Lab 4 Quiz via Courselink Quizzes (ALL SECTIONS)
Nov 29-Dec3	Lab 5- Determination of Reducing sugars in Carbohydrates (Virtual) and Lab 5 Quiz via Courselink Quizzes (ALL SECTIONS)

**In-Person Lab Groups:****GROUP A**

Sections

101,102,103,107,108,109,113,114,115,119,120,121,125,126,127,131,132,133,143,144,145,149,150,151

**GROUP B**

Sections

104,105,106,110,111,112,116,117,118,122,123,124,128,129,130,134,135,136,146,147,148,152,153,154.

**GROUP C**

Sections

201,202,203,207,208,209,219,220,221,225,226,227,231,232,233,237,238,239,240,241,242,243,244,245,  
249,250,251.**GROUP D**

Sections

204,205,205,210,211,212,222,223,224,228,229,230,234,235,236,246,247,248,252,253,254.

## 6 Assessments

### 6.1 Grade Assessments

<b>Form of Assessment</b>	<b>Weight of Assessment (% of final)</b>	<b>Due Date of Assessment (2021)</b>	<b>Course Content /Activity</b>	<b>Learning Outcome Addressed</b>
Online Quiz #1	2.5%	September 22-28	Lectures 1-4	#1, 2, 8
Online Quiz #2	2.5%	October 6-13	Lectures 5-8	#2, 3, 8
Midterm	25%	October 23	Lectures 1-12	#1, 2, 3, 4, 8
Online Quiz #3	2.5%	November 5-11	Lectures 13-16	#5, 8
Online Quiz #4	2.5%	November 19-25	Lectures 17-20	#5, 6, 8
Final Exam	40%	December 14	Cumulative, with emphasis on lectures 13-24	#1-6, 8
Laboratory Quizzes and Write-ups	25%	See Lab Schedule	Laboratory experiments	#7, 8

Lecture Component: 75%

Laboratory Component: 25%

Total: 100%

## 6.2 Note

Students must pass the Lecture component on its own AND the Laboratory component on its own to pass the course as a whole (i.e. students need to achieve an overall grade of at least 37.5/75 for the 4 quizzes and the 2 exams and a minimum of 12.5/25 for the laboratory). This means that a high laboratory mark cannot be used to secure a pass if the lecture component is failed or vice versa. In cases where this standard is not achieved, the final grades assigned will either be the calculated grade or 47%, whichever is less.

## 6.3 Lecture Component

### LECTURE COMPONENT

#### ONLINE QUIZZES:

**Sep 22-28, Oct 6-13, Nov 5-11 and Nov 19-25**

The online quizzes are meant to ensure that students keep up with and have a chance to assess their understanding of the lecture material. The quizzes are NOT invigilated via Respondus Lockdown Browser + Monitor. Although these assignments are online, and are not proctored, **STUDENTS ARE EXPECTED TO ANSWER THE QUESTIONS BY THEMSELVES**. The goal of the quizzes is to have students review and reflect on the material, and facilitate studying for the midterm and final exam in a lower-stakes format. As such, students will be given **three attempts** at the quiz over a period of one week. For each attempt, you will see your overall grade and the mark you received for each question (from which you can determine which questions you answered correctly and which you answered incorrectly) immediately after submitting the quiz. **The highest attempt out of the 3 will be used in the overall grade calculation.** The time limit for each quiz attempt is 1 hr. Extra time for students with accommodations will be set up automatically on Courselink once they register with SAS. Since the questions are randomly selected, **each attempt will have different questions** but on the same theme.

**Access to grades, answers and feedback:** Students will be granted access to the feedback and answers to the quiz questions on the day following the closing of the quiz. Questions about the grades must be made to the instructor within a period of one-week following that. **Please note that feedback, explanations or answers cannot be provided while the quiz is open.** Please email your questions regarding specific quiz questions **ONLY** after reviewing the marking scheme once it has been released.

**Deferrals policy:** The quiz cannot be extended beyond the one week period it is open as answers are set to be released immediately following the closure of each quiz. Students with medical or compassionate issues that **cover the entire one-week period the quiz is**

**open** will be granted a changed mark weighting. The value of quizzes missed will be added to the value of the final exam. Please inform the instructor within **one week** of the end of the assignment deadline. As per university policy, verification of illness will not be required for the F21 semester. Be sure you have access to a working computer with a stable Internet connection. **Technical problems are not grounds for a deferral.**

## **MIDTERM EXAM:**

**Date: Saturday, October 23, 2021**

**Window of access 1:00-2:00 PM; Exam length 90 min**

**Midterm exam will be administered online through courselink quizzes. The midterm will be proctored via Respondus Lockdown Browser + Monitor. You will need access to a computer with a webcam, either built-in or external to complete the exams.**

**STUDENTS MUST NOTIFY THE INSTRUCTOR OF ANY ACADEMIC CONFLICTS BY Friday, September 24.** Academic conflicts are courses or labs that are scheduled at the exact same time. Work commitments are not considered conflicts and will not be able to be accommodated.

**Access to grades, answers and feedback:** Students will be granted access to their grades and answers to the midterm once all exams have been graded. Questions about the grades must be made to the instructor within one week of the midterm being available for return.

**Deferrals policy:** Only medical or compassionate accommodations will be granted a missed midterm. There will be no alternate midterm dates. Please inform the instructor within **one week** of the midterm date. If a missed midterm is granted the final exam will be reweighted to 65%. As per university policy, verification of illness will not be required for the F21 semester.

## **FINAL EXAM:**

**DATE: Tuesday, December 14**

**Window of access: 8:30-9:30 AM**

**The exam will be 120 min (2 hrs) in length**

**The final exam will be administered online through courselink quizzes. It will be proctored via Respondus Lockdown Browser + Monitor. You will need access to a computer with a webcam, either built-in or external to complete the exams.**

This exam will **cover the entire course (lectures 1-24)**, with strong emphasis on the material covered after the midterm examination. A **metabolic chart** will be posted on Courselink and

provided at the final examination. The chart shows chemical structures organized into metabolic pathways, but it does not show compound or enzyme names, reaction stoichiometries and mechanisms, etc. Students are expected to be familiar with these, as outlined in the Learning Outcomes for the course.

**Deferral Policy:** If you are unable to write the final exam at the scheduled time due to a valid medical or compassionate reason, please contact your program counsellor as soon as possible to apply for a deferred exam. Deferred exams will be held during the deferred exam period scheduled by the Registrar's Office the following semester.

**Technology in all exams:** Students may use a numerical calculator with ln and log functions for exams. Advanced calculators, computers, tablets or smart phones may **not** be used.

## 6.4 Laboratory Component

### LABORATORY COMPONENT

Laboratory sessions are designed to relate to the lecture content and to introduce students to proper scientific recording of data and analysis of results.

#### **Lab completion:**

**Students must complete at least 4 labs out of total 5 to pass the course.**

**Laboratory sessions begin the week of September 13 (see Laboratory Schedule)**

#### **Lab Write-up Submission:**

For in-person Labs - submit the Lab write-up to the Courselink Dropbox by the end of the day on which you complete the lab.

For online labs - submit the Lab write-up to the Courselink Dropbox by Friday 5 pm of the week the lab is open.

#### **Lab Quizzes:**

All Lab quizzes will be administered via Courselink Quizzes. You will have 3 attempts with the best grade recorded. For the dates, see "Lab Schedule."

#### **Location:**

SSC 3110/3111/3112 for the in-person labs, and Virtual via Zoom for online labs

#### **Lab exemptions:**

If you have earned a passing lab grade in a previous attempt at BIOC\*2580 within the last 12

months, you may apply for a lab exemption. Send your request to [bioc2580@uoguelph.ca](mailto:bioc2580@uoguelph.ca) (put *Lab exemption* on the Subject line). **You do not have a valid lab exemption unless you have received confirmation that it has been granted.**

#### **Lab section number:**

The last 3 digits on your class schedule are your section number; e.g. for BIOC\*2580\*0110, the section number is 110. Always put your section number in the subject line when you send and email regarding any lab issue.

#### **Lab Manual:**

The pdfs for each Lab will be posted on Courselink, so there is no Lab Manual to buy.

#### **Lab TA:**

Each section will be assigned a TA and her/his email will be posted. You should email your TA regarding any questions you have about the Lab write-up.

## **7 Course Statements**

### **7.1 Themes**

There are three main themes that run throughout this foundational course in biochemistry:

1. The principles of Physics and Chemistry can explain Biology.
1. The Structure and Function of biological molecules are inextricably connected.
1. Biochemistry is the link between biological Metabolism and its underlying Chemistry

### **7.2 Statement on the use of animals:**

No animals are used directly in the laboratory exercises for BIOC\*2580. However it is in the nature of biochemistry that some enzymes or biochemical substances may be derived from animal sources. Efforts have been made to reduce the use of animal related products by using equivalent enzymes or substances derived from microbial or plant sources, but in some cases it may be necessary to use these products

## **8 Department of Molecular and Cellular Biology**



## Statements

### 8.1 Academic Advisors

If you are concerned about any aspect of your academic program:

- Make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

### 8.2 Academic Support

If you are struggling to succeed academically:

- Learning Commons: There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist. <http://www.learningcommons.uoguelph.ca/>
- Science Commons: Located in the library, the Science Commons provides support for physics, mathematic/statistics, and chemistry. Details on their hours of operations can be found at: <http://www.lib.uoguelph.ca/get-assistance/studying/chemistry-physics-help> and <http://www.lib.uoguelph.ca/get-assistance/studying/math-stats-help>

### 8.3 Wellness

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance. <https://www.uoguelph.ca/counselling/>
- Student Health Services is located on campus and is available to provide medical attention. <https://www.uoguelph.ca/studenthealthservices/clinic>
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations. <http://www.selfregulationskills.ca/>

### 8.4 Personal information

Personal information is collected under the authority of the University of Guelph Act (1964),

and in accordance with Ontario's Freedom of Information and Protection of Privacy Act (FIPPA) <http://www.e-laws.gov.on.ca/index.html>. This information is used by University officials in order to carry out their authorized academic and administrative responsibilities and also to establish a relationship for alumni and development purposes.

For more information regarding the Collection, Use and Disclosure of Personal Information policies please see the Undergraduate Calendar.  
(<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/intro/index.shtml>)

## **8.5 Course Offering Information Disclaimer**

Please note that course delivery format (face-to-face vs online) is subject to change up to the first-class day depending on requirements placed on the University and its employees by public health bodies, and local, provincial and federal governments. Any changes to course format prior to the first class will be posted on WebAdvisor/Student Planning as they become available.

# **9 University Statements**

## **9.1 Email Communication**

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

## **9.2 When You Cannot Meet a Course Requirement**

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals  
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration  
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions  
<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

## **9.3 Drop Date**

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

## 9.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

## 9.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website

<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website

<https://www.ridgetownc.com/services/accessibilityservices.cfm>

## 9.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not

relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

## 9.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

## 9.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

## 9.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

## 9.10 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g.. final exam or major assignment).

## 9.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.

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