Faculty of Science Course Syllabus
Department of Biology
BIOL 2060 - Introductory Ecology
Fall 2021

Lecturer: Rajesh Rajaselvam (he/him); Rajesh.Rajaselvam@dal.ca; Office Hrs (LSC 3082): Mon/Wed 13:00-14:30 & Thu by appointment.

Coordinator & Lab Instructor: Allison Schmidt (she/her); Allison.Schmidt@dal.ca; Office Hrs (online): Tue/Fri 11:30-12:30 & Thu 9:30-10:30 or by appointment.

Lectures: 34 in-person 50-min lectures (see schedule for details). If lockdown occurs; lectures will be held **synchronously** via Collaborate Ultra on Brightspace and **will NOT be recorded;** therefore, it is very important that you attend these in-person/live online. Additionally, for admin purposes attendance will be recorded during all Lectures. You will be provided with detailed PowerPoint Lecture notes and a Collaborate link for each Lecture 24 hrs in advance.

Laboratories: Twelve 2-hr weekly labs, with some labs spanning multiple weeks. Labs 1-4 are in-person with asynchronous pre- and post-lab work, labs (5-6) are asynchronous hosted through our Brightspace page (see schedule for details). If lockdown occurs; labs will follow the same schedule and in-person sessions will instead be held **synchronously for each lab section via MS Teams** and **will NOT be recorded;** therefore, it is very important that you attend these sessions in-person/live online.

Course Description

Ecology examines interactions of plants and animals, including humans, with each other and with their non-living world. Topics include population growth, competition, predation, food webs, metapopulation dynamics, biodiversity and ecosystem function. The course has a quantitative approach providing a foundation for further work in ecology, marine biology and environmental science.

Course Prerequisites

A grade of C+ or higher in BIOL 1011.03, BIOL 1021.03, BIOA 1003.03, ENVS 1000.06, BIOL 1030.03, or (SCIE 1505.18) AND A grade of D or higher in MATH/STAT 1060.03 or MATH/STAT 2080.03.

Course Exclusion

BIOA 3001.03

Course Materials

1. Molles MC, Laursen A. 2020. Ecology: concepts and applications. 5th Canadian Edition. Toronto: McGraw-Hill. 654p
    a. Paper copy can be purchased at bookstore
    b. Can purchase e-book via through the link in the Brightspace Orientation unit or the bookstore (in-person or online – will need you receipt to activate access through the Brightspace link).
2. Course Brightspace page (https://dal.brightspace.com/d2l/login)
3. Lab manual (free, included in course Brightspace page)
4. Up to date versions of MS Excel and Teams (free download here: https://libraries.dal.ca/help/software-downloads.html)
5. R statistical software (free download here: https://www.r-project.org/)

COVID Safety

All students are required to comply with health and safety requirements on campus and should be considerate of others' health concerns. Non-compliance may be reported under the Student Code of Conduct.

1. Wearing a mask that covers your nose and mouth is **strongly encouraged** for all in-person components regardless of public health guidelines.
2. When using a Dalhousie desktop or laptop, you must use disinfectant wipes to thoroughly clean the keyboard, screen, and casing prior to leaving.
3. If you are experiencing **ANY** flu-like symptoms, stay home and get tested– all lecture notes are posted online and if you are feeling well enough you can participate in your lab virtually – see Missed Course Requirements.

Assumed Knowledge and Skills before taking BIOL 2060

Before starting the course, you should be able to:

- **Recall** 1) exponential and logistic models describe unlimited and resource-limited population growth; 2) evolutionary trade-off underlie differences in life history strategies; and 3) basic chemistry concepts (balancing equations, molecules)
- **Distinguish** among biological interactions (predation, competition, mutualism, symbiosis, parasitism)
- **Describe** human impacts on the nitrogen cycle
- **Interpret** 1) the results of a simple field or laboratory experiment and 2) simple graphs (e.g., histograms, x versus y plots) of ecological data
- **Know** how to calculate summary statistics (mean, sample size, variance, standard deviation)
- **Familiarity** with regression, t-tests and ANOVA

Note: If you are unsure about any of these, you should review them in your first-year biology, chemistry and statistics textbooks before the class begins.

Learning Objectives -- Expected Knowledge and Skills after taking BIOL 2060

Once you have completed the class you should be able to:

- **Describe** 1) major drivers of and differences among terrestrial, marine and freshwater biomes; 2) how abiotic factors influence the distribution and abundance of organisms; 3) the mechanisms that drive primary and secondary succession; and 4) the effects of disturbance on species diversity
- **Understand** the fundamentals of disease dynamics and transmission
- **Interpret** 1) the evolution of animal behaviour and life history in light of natural selection and inclusive fitness and 2) food-web diagrams in terms of indirect interactions including trophic cascades
- **Explain** 1) the concept of a fundamental and realized ecological niche; 2) top-down and bottom-up control of primary productivity and 3) the major gradients of species diversity in terrestrial and marine ecosystems.
- **Use** the BIDE (births, deaths, immigration, emigration), exponential and logistic population growth models to make predictions
- **Manipulate and interpret** results of the Lotka-Volterra competition and predator-prey models
- **Predict** the impacts of human activities (e.g. climate change, nutrient loading) using knowledge of the major biogeochemical cycles on the planet (e.g. water, carbon, nitrogen, phosphorus)
- **Design** a laboratory or field study using appropriate experimental design principles
- **Generate** appropriate tables and graphs to represent ecological data
- **Read** and interpret a scientific paper describing a straightforward experimental or observational study
- **Conduct** statistical analyses (regression, t-test, ANOVA) on ecological data
- **Communicate** research results in the style of a scientific paper and conference style poster

Course Assessment

To get a passing final grade in BIOL 2060 you **must get 50% or better** on your Final Lab Grade (20 out of 40 points) **and** your Midterm and Final Exam marks (30 out of 60 points). See Table 1 and schedule for more information.

Table 1. BIOL 2060 course assessment.

Components	% of final grade	Date
Exams (required, synchronous)	**60**	
Midterm Exam	15	Oct 13 (10:35-11:25am, 50 min)
Final Exam	45	Scheduled by Registrar
Labs	**40**	
Pre-lab Quizzes	5	See schedule
Assignments (A1, A2, & A5, 4% each)	12	See schedule
Competition Experiment (A3 Final Manuscript)	10	See schedule
Forest Ecology & Succession Poster (A4)	8	See schedule
Final Reflection Video (A6)	3	See schedule
Discussion Board participation	2	See Course Policies
Total	**100**	

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	**B+** (77-79)	**C+** (65-69)	**D**	(50-54)
A (85-89)	**B** (73-76)	**C** (60-64)	**F**	(<50)
A- (80-84)	**B-** (70-72)	**C-** (55-59)		

Note: If you require a specific final grade for a scholarship, honours degree, job, graduate or professional school or other purpose, you should ensure that you put in the work needed to earn that grade. We offer many opportunities in the lecture and lab to get feedback and help and showcase your understanding on exams and assignments; therefore, we do not offer extra assignments to "boost" your grade. Keep in mind that we already round final grades to the nearest whole number. In fairness to other students and in keeping with the university's high academic standard, it is not our practice take in requests to bump up a grade at the end of the term. However, if you have any questions about your grade, marking or feedback, believe a mistake was made, or if you experience an extenuating circumstance, we encourage you to come and discuss this with us as the term is progressing. Lab assignment grades can be reviewed by the Lab Instructor upon request at the **end** of term **no later** than a week after the final grades have been submitted on Brightspace **only if** you believe the marking change(s) would make a difference in your final letter grade.

Other course requirements

Course Orientation Quiz
Prior to the start of Labs, students **must obtain 100%** (unlimited attempts) on the **Orientation Quiz** to view and unlock the rest of the Pre-lab Quizzes. Based on the Orientation Unit content in the course's Brightspace. Not included in your final grade.

Test-Your-Tech Activities
Additionally, students must submit **at least 1 attempt on all Test-Your-Tech Activities** as *one* of the pre-requisites to access the lab assignment dropboxes. Note that other dropbox pre-requisites may include completing the associated Pre-lab Quiz and viewing important video content. The purpose of these is to troubleshoot any tech-related issues and practice important skills in advance of your lab assignment. Not included in your final grade.

Assignment Drafts
Although not worth any marks, you will be required to submit draft assignments throughout this course. The purpose of these is so you can receive valuable feedback on them to improve on your work before final submissions (which are worth marks). Failure to submit drafts on time will result in a **5% deduction** on your future assignments.

Lecture & Lab Schedule (Checklist)

	Lecture Topic **Schedule & Readings**	**Lab Topics & <u>Due Dates</u>.** **Face-2-Face (F2F) & Online Asynchronous**
Week 1 Sep 08-10	Wed: Introduction and Overview of Ecology *(Molles & Laursen 2020: Chapter 1)* Fri: Evolution & Speciation (Chap 4)	**Orientation week (asynchronous):** ☐**Orientation Quiz** (need 100% to access rest of quizzes, unlimited attempts) ☐**Test-Your-Tech Activities** (not graded but required to access rest of assignment dropboxes) ☐Choose your Lab 1 plant competition experiment by completing **Pre-Lab Quiz 1 48 hours before your first lab** (not graded, single attempt) ☐Start weekly **journal entries for A6**
Week 2 Sep 13-17	Mon: Behavioural Ecology *(Chap 8)* Wed: Life History& Niche *(Chap 9)* Fri: Review/ Discussion I	**Lab 1 (Part 1):** Plant Competition—Design an Experiment **(F2F):** ☐Meet your Lab Instructor, TAs, lab mates, & come prepared with questions for **A1** ☐TA will assign plant experiment groups ☐Discuss your **A1 Experimental Design Worksheet** with the TA or instructor before planting ☐ Visit the greenhouse and plant your experiment ☐Work with your group on **A1 Methods Draft** & submit **48 hours before your next lab**
Week 3 Sep 20-24	Mon: Distribution + Abundance *(Chap 10)* Wed: Dynamics & Structure *(Chap 11)* Fri: Population Growth I *(Chap 12)*	**Lab 2:** Nature of Data—Oil Spills Assignment **(F2F):** ☐**Pre-Lab Quiz 2:** H0/HA, QC Statements, & Graphs ☐General oral feedback on **A1 Methods Draft** from TA ☐Submit **A2 48 hours before your next lab** ☐**Optional A2 Resubmission** by <u>Mon Nov 15, 11:59 pm</u> (day after study break)
Week 4 Sep 27- Oct 1	Mon: Population Growth II *(Chap 12)* Wed: Competition I *(Chap 13)* Fri: Competition II *(Chap 13)*	**Lab 3 (Part 1):** Population Dynamics—Trout Life History Draft Assignment **(F2F):** ☐**Pre-Lab Quiz 3:** Fish Life History & Leslie Matrix ☐Submit **A3 Draft 48 hours before your next lab**
Week 5 Oct 4-8	Mon: Herbivory *(Chap 14*) Wed: Predation*(Chap 14*) *Fri:* Parasitism & Disease *(Chap 15)*	**Lab 1 (Part 2):** Plant Competition **(F2F):** ☐ Troubleshoot your experiment in the lab **Lab 3 (Part 2):** Population Dynamics—Trout Life History Final Assignment **(F2F):** ☐General oral feedback on **A3 Draft** from TA ☐Submit **A3 Final 48 hours before your next lab**
Week 6 Oct 11-15	**Mon: Thanksgiving (no class)** **Wed: MIDTERM EXAM (in class, 50 min)** Fri: Life on Land I *(Chap 2)*	**Lab 4 (Part 1):** Forest Ecology— Data collection **(F2F):** ☐Collect data in Point Pleasant Park

** Pre-lab quizzes have no deadlines (Except PL1), have unlimited attempts, but at least 1 attempt is required to access the associated assignment dropbox. Assignments drafts will not be graded but will receive general oral feedback from your TAs during lab or peer-review feedback by your lab mates.*

Week 7 Oct 18-22	Mon: Life on Land II *(Chap 2)* Wed*:* Succession I *(Chap 18)* Fri: Succession II *(Chap 18)*	**Lab 4 (Part 2):** Forest Ecology—Draft Conference Poster **(F2F):** ☐**Pre-Lab Quiz 4.1:** Forest Ecology Community Metrics ☐Submit **A4 Draft 48 hours before your next lab**
Week 8 Oct 25-29	Mon: Measuring Biodiversity *(Chap 16)* Wed*:* Disturbance *(Chaps 16, 18)* Fri: Life in Water I *(Chap 3)*	**Lab 4 (Part 3):** Forest Ecology—Peer-Feedback & Final Conference Poster **(asynchronous):** ☐**Pre-Lab Quiz 4.2:** Paraphrasing vs Plagiarism ☐Optional drop-in help sessions during lab times ☐Submit **A4 Draft Peer-Feedback** by the start of your lab time ☐Submit **A4 Final 48 hours before your next lab**
Week 9 Nov 1-5	Mon: Life in Water II *(Chap 3)* Wed*:* Food Webs I *(Chap 17)* Fri: Food Webs II *(Chap 17)*	**Lab 1 (Part 3):** Plant Competition— Write the Draft Manuscript **(F2F):** ☐Collect and analyze data ☐Work on **A1 Draft Manuscript in Teams groups** ☐Submit **A1 Draft Manuscript 48 hours before your lab after the study break**
Week 10 Nov 8-11	**No classes or labs: Fall Study Break and Remembrance Day** ☐***Reminder:*** *Optional A1 resubmission due by Mon Nov 15, 11:59 pm*	
Week 11 Nov 15-26	Mon: Ecosystem Engineers *(Chap 17)* Wed*:* Production + Energy *(Chaps 19, 20)* Fri: Trophic Levels *(Chaps 19, 20)*	**Lab 1 (Part 4):** Plant Competition—Receive Feedback and Write the Final Manuscript **(F2F):** ☐General oral feedback on **A1 Draft Manuscript** from TA ☐Work on **A1 Final Manuscript in Teams groups** ☐Submit **A1 Final Manuscript 48 hours before your next lab**
Week 12 Nov 22-26	Mon: Nitrogen + Phosphorous *(Chaps 19, 20)* Wed*:* Carbon *(Chaps 19, 23)* Fri: Anthropocene: Media	**Lab 5:** Species-Area Relationships & Trophic Cascades—Channel Islands Assignment **(asynchronous):** ☐**Pre-Lab Quiz 5**: Island Biogeography Theory ☐Optional drop-in help sessions during lab times ☐Submit **A5 48 hours before your next lab**
Week 13 Nov 29 - Dec 3	Mon: Anthropocene *(Chaps 19-23)* Wed*:* Conservation I *(Chaps 19-23)* Fri: Conservation II *(Chaps 19-23)*	**Lab 6:** Final Reflection—Video Presentation **(asynchronous, term-long)** ☐Optional drop-in help sessions during lab times ☐Submit **A6** by Mon Dec 6, 11:59 pm
Week 14 Dec 6-7	Review and Discussion II	**No labs or drop-in help sessions**
Scheduled by the Registrar's Office	**FINAL EXAM**	

** Pre-lab quizzes have no deadlines (except PL1), have unlimited attempts, but at least 1 attempt is required to access the associated assignment dropbox. Assignments drafts will not be graded but will receive general oral feedback from your TAs during lab or peer-review feedback by your lab mates.*

BIOL 2060 Course Policies

It is **your responsibility** to read the **BIOL 2060 Course Policies** and **University Policies and Statements** outlined in the following pages during the 1st week of class.

To ensure the fair and equal treatment of all students, these rules and policies will be followed by all members of the teaching team.

Note: Extenuating circumstances can arise and when they do you are encouraged to get in touch with Allison.Schmidt@dal.ca as soon as possible in an attempt work out reasonable accommodation.

The **Brightspace** online platform (https://dal.brightspace.com/d2l/login) will be used to host lecture and lab content as well as to post regular course updates and announcements. It is your responsibility to log in regularly (several times a week) to the course's Brightspace page for the most up-to-date information.

Lectures (60% of your final grade)

The schedule gives chapter references relevant to each week's topics. However, we don't assign specific page readings – it is your responsibility to find relevant sections within each chapter. We will wherever possible give the figure reference for any textbook figures included in the lecture slides. This will give you some reference to where in the book the relevant material can be found. Note that we will draw connections between topics in different chapters of the text.

Midterm and Final Exams are delivered in-person either in class (Midterm) or scheduled by the registrar's office (Final), see the schedule for details. Also, refer to the **Missed Course Requirements** section of this syllabus for missed exams.

Labs (40% of your final grade)

Labs sessions are weekly, with much of the required work due **prior** to the lab week.

In-person lab weeks

Attendance for the lab section that you are registered is **mandatory**. However, if you need to attend an alternate lab time, contact Allison.Schmidt@dal.ca and we will do our best to accommodate.

Asynchronous drop-in lab weeks

Students are encouraged to drop-in for help from Teaching Assistants (TAs) at any time during any of the B0 lab sections.

Labs have been designed for you to practice the skills you need in science and beyond:

- Critical thinking
- Initiative, self-motivation and self-assessment
- Planning, organizing and time management
- Data collection and analysis
- Data presentation, interpretation and synthesis
- Scientific research and writing
- Collaboration – working in groups
- Communication – through collaboration, writing and discussions

Pre-Lab Quizzes

You will have and **Orientation Quiz** for which you **must achieve 100%** to gain access to the other **5 Pre-lab Quizzes**, each worth **1%**.

Pre-Lab Quiz 1 must be completed **48 hours prior to your first Lab**. This is not a graded quiz but instead is part of getting you ready for the up coming plant experiment design during Lab 1.

There are **no deadlines for the Pre-lab Quizzes 2-5**; however, you need to submit **at least 1 attempt to access their associated lab's assignment dropbox**. You have unlimited attempts, so feel-free to take the quizzes as many times as you like. The mastery of these quizzes will give you the tools you need to do well on your lab assignments. Prelab Quizzes 2-5 will count towards your final grade.

All quizzes will be available until the last day of classes.

Lab Assignments and Other Submissions

There will be 3 types of assignments:

1) the term-long journal entry logs for your final reflection video assignment
2) multi-week labs with specific due dates for different components (e.g. trout life history, plant competition group experiment, and forest ecology poster)
3) other self-contained weekly lab assignments (e.g. oil spills and SAR/trophic cascades)

Each assignment **must** be submitted online in the associated Brightspace dropbox or Discussion Board by the deadline according to their specific instructions. You will have access to unlimited submissions; however, the teaching team will only mark the latest completed submission. Late marks will apply if you need to resubmit a completed version after the due date.

Pro-tip: Well-before the deadline, submit the work that you have completed so far, followed by a final version closer to the deadline. That way you will not have to worry about computer failures or other complications preventing you from submitting an assignment on time.

You will be given **guidelines for the figures, tables and formatting that must be meticulously followed** because this is a requirement in science. You will not be given a "recipe" or rubric in advance to follow. It will often be left up to you to make judgments about what to include or how to approach a question, this is the critical thinking aspect of the assignments and providing a detailed rubric robs you of this practice. However, as is often the case in scientific writing, you will have the **opportunity to submit a draft version** for several of your assignments to obtain feedback from your Teaching Assistant (or your peers) prior to submitting the final version for marking.

You will be provided with the **rationale and examples** in the lab to help you understand the requirements and guide your thinking. You will also have **small and large group discussions** to gain a broader and deeper understanding of ideas and concepts. The instructor and TAs will never give you the answers to assignment questions but instead direct your thinking toward the answers you are looking for.

Late Assignments: All assignments will be considered late if submitted after the deadline. A **10% penalty per day** (30% for weekends) is levied on late assignments. Late assignments will **not** be accepted after graded papers have been handed back.

Assignment Back-ups: It is the student's responsibility to keep backup copies of all submitted class work. Computers meltdown often, back up your work in the cloud or email it to yourself.

Assignment Marking Framework

Assignments drafts will not be graded but all need to be completed to get a full understanding of the concepts. TAs will provide general oral feedback of assignment drafts during in-person labs, with the opportunity to break out into smaller groups or individually for more specific feedback. For greatest value, you are encouraged to come prepared with questions during these labs. Assignments drafts that are submitted **late, incomplete or not at all will result in a 5% penalty on the future graded assignments**.

Final versions of assignments will be graded by the TA with written feedback within a week of submission, except for the Lab 1 plant competition final manuscript which may take longer depending on the number of group vs individual assignments. TAs will not be providing specific answers in their written feedback; rather, guidance to reflect on. To review your marking, contact your TA through Brightspace or Teams or attend one of the asynchronous drop-in sessions.

Reflective questions will be part of every draft and final assignment and these will help you hone your ability to assess and improve the quality of your work. Your reflections will be marked for completion, but not graded. A **5% deduction on the associated assignment will apply if incomplete or missing** (see assignment instructions for details).

Critically assessing your work and improving it based on your assessment are essential skills in all professions. Evidence shows that when you assess the quality of your own work, you are developing the ability to critique how you did something and learn from your mistakes (Weimer 2014). Mastering any skill takes practice, so continually using them is vital in developing your assessment skills and preparing you for the work force (Weimer 2014). This is a crucial step in your learning and will greatly help you to understand the material and improve your work.

Therefore, the onus is on you to take the feedback you get and go back to the guidelines and assignment details to identify where you may have gone wrong and come up with specific questions for clarification to bring to the TA or the Instructor if needed.

For all assignments, you will be assessed on:

- your ability to follow guidelines where they are specified
- the quality of your work
- your understanding of the concepts
- your ability to convey that understanding

Note: Time and effort are not on the list because they cannot be objectively assessed, so please do not request a higher grade with these as a rationale. Carefully make notes during oral feedback sessions and read all your written feedback. Refer to the marking framework and instructions and come to labs with specific questions. This will enhance your understanding and grow your ability to self-assess.

Your work will be assessed using the following framework. Indicated below are what inadequate (F) and excellent (A) represent in the context of this class and the rest is a sliding scale. The generality of the framework allows you to think critically about what is needed and gives you the flexibility to be creative while still being rigorous and building your scientific thinking and communication skills. This framework parallels the Dalhousie University Grade Scale and Expectations.

Inadequate:

- inappropriate presentation and analysis of the data
- followed few to none of the guidelines for the layout of figures, tables, and their associated captions
- incorrect interpretation of the data and analyses
- demonstrated a limited understanding of the necessary background, context, and underlying concepts
- included only the minimum level, unnecessary or excessive amount of detail in the explanation
- demonstrated a limited ability to draw scientific conclusions based on data, integrate results with scientific literature and discuss the importance of results to science and society
- information poorly conveyed (not succinct, illogical, unfocused, redundant, or lacking clarity)

Excellent:

- best and complete way to present and analyze the data
- used a thoughtful design for the layout of figures and tables (e.g. concise tables, multi-panel figures, etc.) and their associated captions in addition to following all the guidelines
- correct and complete interpretation of the data and analysis
- demonstrated an exceptional understanding of the necessary background, context, and underlying concepts
- included an appropriate amount of detail in the explanation
- drew insightful conclusions based on data, demonstrated an exceptional ability to integrate results with literature and displayed critical thought in discussing the importance of results to and their implications for science and society
- clearly and thoughtfully conveyed information with a logical structure clearly linking ideas

Missed Course Requirements

Students are responsible for all material covered in the class. However, Dalhousie University recognizes that you may experience **short-term (3 consecutive days or less)** physical or mental health conditions, or other extenuating circumstances (such as caregiving duties; immediate family illness, injury, or death; involvement in an accident; legal proceedings or being a victim of a crime, domestic or intimate partner violence) that may affect your ability to attend required classes, tests, exams or submit other coursework.

If you are feeling unwell (especially with any flu-like symptoms), please stay home and contact Allison.Schmidt@dal.ca at least **2 hours before your lab time**. You will be able to participate virtually via MS Teams if you are feeling well enough, otherwise, you can go ahead and use a student declaration of absence.

You will be allowed to use the **Student Declaration of Absence (SDA)** form **once** in BIOL 2060 to automatically obtain (for any reason) a **penalty-free 3-day extension** for any lab assignment **except** for the Lab 4 A4 Draft poster and associated peer-evaluation components.

- You are **not required to provide a reason or medical note for using the SDA,** but you must submit your fully completed form (no blanks, no missing information, and must specify the assignment) using the **dropbox** in Brightspace **no later than 3 days past the assignment's deadline**.

- SDAs are not a free pass, which means **you are still responsible for completing missed course requirements**. For additional extension requests, contact Allison.Schmidt@dal.ca.

- You **cannot use the SDA for the Midterm or Final Exams**. To request and alternate arrangement for a missed exam, contact Allison.Schmidt@dal.ca.

    - **Note:** If you miss the scheduled Makeup Midterm Exam, your Lecture grade will be pro-rated based on your Final Exam (cumulative).
    - **Note:** Requests for alternate arrangements for missed University-scheduled Final Exams are handled under a separate University regulation: Requests for an Alternative Final Examination Time.

- You do not need the SDA if you already have an accommodation plan in place that allows for coursework deferrals or deadline extensions. However, you need to contact Allison.Schmidt@dal.ca in advance (usually at the start of the course) to initiate your plan and extension requests.

"Long-term absence" refers to absences of more than three (3) consecutive days due to major or chronic physical or mental health conditions, or other extenuating circumstances such as caregiving duties; immediate family illness, injury or death; involvement in an accident; legal proceedings; being a victim of a crime, domestic or intimate partner violence. If this applies to you, get in touch with Allison.Schmidt@dal.ca as soon as possible to help determine the best way to move forward.

Student Collaboration and Communication

You are strongly encouraged to collaborate with your classmates on all assignments since this is how you will get different perspectives and insights. However, you must also be mindful that successful collaborations and group work are based on important criteria, as summarized by Clark and Mayer (2011) in Table 2 below. You are encouraged to **discuss these 3 success criteria at the start of all collaborative group projects** so that everyone's expectations and goals are clear. You can apply this guideline in other courses too!

Table 2. Criteria for successful collaborations (Clark and Mayer, 2011).

Success Criteria	Description
Social Interdependence	The goal of each team member depends on the achievement of all other members.
Outcome Goals	The desired results of the collaboration, such as individual learning or quality of a team project.
Dialog Quality	Substantive contributions made by all parties with no one ignored.

There is only 1 mandatory group submission in BIOL 2060 (Lab 1 - A1 Experimental Design Worksheet). You have the choice to submit the competition experiment components as a group or individually. All other submissions are submitted individually. This means you must ensure that even though you collaborate, your individual assignments are your own work.

- **Pro-tip**: To ensure maximum benefit with minimum chances of plagiarism, after you have discussed ideas with your classmates take some time to think independently before writing down your notes. We will be using **Urkund** in Brightspace to analyze assignment dropbox submissions for plagiarism. Your Urkund report will be available to us after we have graded your work. If you have any questions or concerns about this, please contact your TA or Allison.Schmidt@dal.ca.

Brightspace: Your Brightspace course page (https://dal.brightspace.com/d2l/login) is your main point of contact for all your course needs. It is important that you monitor and navigate to the Announcements, Calendar, Content, Discussion Boards, Assignments & Quizzes (plus feedback), and Gradebook several times a week. When participating in online communications such as posting on the Discussion Board, it is important that you follow proper "**netiquette**" guidelines (see Brightspace Orientation Unit).

- **Pro-tip:** on the top right corner of your home Brightspace page, click on your name, and on "Notifications" to control how you receive these.

Email: Check your Dalhousie email daily! This is an additional route for communication between the teaching team and students on aspects not covered by the Brightspace course page.

Discussion Board Participation: Each student is required to post to the Discussion Board **at least twice** during the term. Each post will be worth **up to 1% each (max 2% total)**. For full marks, each post must create or advance good quality discussions. This can be a new post, an answer, or comment to a previous post, and must follow "**netiquette**" guidelines. The Discussion Board Intro Activity, the Lab A4 draft poster and peer-feedback, and the Lab 6 video presentation do not count towards this mark.

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

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

Tips to avoid plagiarism:

- **Never** lend your completed or partially completed report
- **Do not** borrow a classmate's report
- **Do not** use old reports from previous terms
- **Never** simply submit 2 identical copies of tables and graphs that you and a classmate have been collaborating on.
- You must **make the report your own, independent piece of work** in all respects; otherwise, you will have "copied", thereby committing an academic offence.

Copyright Disclaimer

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If you have questions regarding the use of materials from our Brightspace course page, or have any academic integrity concerns, please contact Allison.Schmidt@dal.ca, or talk to your TA.

Accessibility

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

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

Multitasking: One of the biggest issues associated with BIOL 2060 is multitasking on your computer and phone in lecture or lab. Research by Fried (2008) and Sana et al. (2013) has shown that **students multitasking on their laptop in class did not understand the material as well** as those who did not multitask! Both studies also found that the **performance of the students sitting around the multitasker was also negatively affected** because the multitasking was distracting! So avoid looking at anything other than class material on your computer in lecture or lab so that you and your neighbours can focus on learning! **When you multitask you are in direct violation** of section C.2. Disruption of the code of conduct.

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

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

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

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 Students 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

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

Dalhousie COVID-19 information and updates: https://www.dal.ca/covid-19-information-and-updates.html

References

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Fried CB. 2008. In-class laptop use and its effects on student learning. Comp. Edu. 50:906-914

Sana F, Weston T, Cepeda NJ. 2013. Laptop multitasking hinders classroom learning for both users and nearby peers. Comp. Edu. 62:24-31

Weimer M. 2014. Prompts to Help Students Reflect on How They Approach Learning: The Teaching Professor. Magna Publications; [accessed 2020 Aug 12]. https://www.teachingprofessor.com/topics/for-those-who-teach/prompts-help-students-reflect-approach-learning/