# Faculty of Science Course Syllabus
# Department of Biology
*Biol 2003: Animal Diversity*
*Fall 2020, Remote Learning Version*

**Course Description:** Surveys the diversity of forms and function of invertebrate and vertebrate animals. The course takes a phylogenetic approach, exploring the evolutionary relationships and key transitions between metazoan taxa. Examples of the different life forms are introduced.

**Course Prerequisites:** A grade of C or higher in BIOL 1011.03 or (BIOL 1021.03, BIOL 1031.03, BIOA 1003.03, 1506.09).

**Instructors:** Dr. Jen Frail- Gauthier (Lecturer) jfrail@dal.ca
Office hours: Tuesday 1:30-2:30 through Collaborate Ultra
Thursday 1:30-2:30 through Collaborate Ultra or,
By appointment

Lara Gibson (Laboratory Instructor) ldgibson@dal.ca
Office hours: Wednesday 1:30-3:30 through Collaborate Ultra,
Friday 1:30-2:30 through Collaborate Ultra or,
By appointment.

Things you need to know about us:

- We like to be addressed by our first names.
- We are working from home and will not be on campus at all this term
- Questions about assignments or quizzes should be sent to Lara
- Questions about the content should go to Jen
- We are disappointed we will not meet face- to- face, and cannot show you all the interesting invertebrates we find locally, but we are looking forward to learning about the animals where you live.

The teaching team is rounded out by the Teaching Assistants (TAs), who will introduce themselves in the first week on the discussion board.

**Class Format:** The Fall 2020 class will be delivered Asynchronously, with the exception of the final exam which will be scheduled by the registrars office during the final exam period.

All material will be presented through Brightspace. To access the site start at Dal.ca, click on the brightspace tab on the upper right of the banner. This will bring you to a log on page, which asks for your netID and password. Once you are logged in you should see all pages (links) for any of your classes that have brightspace pages.

Our week will start on Friday's and run to the following Thursdays. New content will be released on Friday by 9am, Atlantic time. Each week we will post an announcement which introduces the various topics for the week, the work that is expected of you, and a reminder of what is due.

Assignments will be due to the appropriate brightspace dropbox by Thursday at 11:50 pm, Atlantic Time.

There will also be a cumulative quiz every Thursday. The quiz will be open from 12:10 am to 11:50 pm, Atlantic time. However, you will have one attempt and 20 minutes to complete the quiz once you open it.

For the most part, really with only two exceptions, work will be due on Thursdays by 11:50 pm, Atlantic Time.

The full schedule of topics and assignments can be found on pgs 3 & 4 of this document.

**Groups and Teaching Assistants:** You will be assigned to a group led by a Teaching Assistant (TAs). These groups will be formed in the week of September 7$^{th}$- 11$^{th}$. At the start of the term your TA will hold virtual drop-in sessions through Collaborate Ultra, found on Brightspace. These sessions will be held during the week of September 14$^{th}$-18$^{th}$ and September 21$^{st}$- 25$^{th}$, and they are not mandatory.

After these dates, your TA will be available through the group discussion board on Brightspace. The discussion board is where you can ask questions, tell us about what you find in your local environment, or share any interesting news articles related to the content.

**Table 1** Weekly schedule. Content will be released on the first Friday by 9 am. Unless otherwise stated, assignments are due on Thursday's by 11:50 pm.

| Week | Date | Topics | Assignment and Assessment |
|---|---|---|---|
| 1 | Sept 4th - 10th | Class Introduction<br>Biodiversity<br>Introduction | Habitat Biodiversity Project Released |
| 2 | Sept 11th -17th | Animal Architecture<br>Community Science & iNaturalist | Habitat Biodiversity Data Presentations due (1%)<br>Cumulative Content Quiz 1 (2%) |
| Sept 18th | | Add/ Drop Date for Fall Semester | |
| Sept 18th-20th | | | Dalhousie BiobBlitz (3%) |
| 3 | Sept 18th -24th | Phyla Porifera & Placozoa<br>Phylum Cnidaria<br>Phylum Ctenophora<br>Local Examples & microscopic views<br>Introduction to Nature Journaling | Habitat Biodiversity: Data trends & interpretation (1%)<br>Natural History Journals: Your place (1%)<br>Cumulative Content Quiz 2 (2%) |
| 4 | Sept 25th- Oct 1st | Intro to Bilaterian animals<br>Phyla Aceolomorpha & Platyhelminthes<br>Annelida- a true can of worms!<br>Local Examples & microscopic views | BioBlitz Results (1%)<br>Natural History Journals: Scavenger Hunt (1%)<br>Cumulative Content Quiz 3 (2%) |
| Oct 2nd | | Last Day to Drop without a W | |
| 5 | Oct 2nd – 8th | Phylum Mollusca<br>All the small things (Lophotrochozoa)<br>Local Examples & microscopic views<br>Drawings & scale bars | Habitat Biodiversity: Completed Results Section(4%)<br>Natural History Journal: Species List (1%)<br>Cumulative Content Quiz 4 (2%) |
| **October 12th: Thanksgiving Monday, Dalhousie University Closed** | | | |
| **No later than October 13th: Final Natural History Proposal (0%)** | | | |
| 6 | Oct 9th – 15th | Non-Arthropod Ecdysozoans<br>Phylum Arthropoda (Part 1)<br>Local Examples & microscopic views<br>Information Literacy: How to find literature | Mollusc Question (2%)<br>Natural History Journals: Drawing (1.5%)<br>Cumulative Content Quiz 5 (2%) |
| 7 | Oct 16th – 22nd | Phylum Echinodermata<br>Phylum Hemichordata<br>Local examples & microscopic views | Habitat Biodiversity: Discussion& Citations (6%)<br>Natural History Journals: Free (1%)<br>Cumulative Content Quiz 6 (2%) |
| 8 | Oct 23rd - 29th | Chordata- Tunicates & Cephalochordates<br>Vertebrate beginnings & early "fishes"<br>Local examples & microscopic views | Natural History Journal: Observation (1.5%)<br>Cumulative Content Quiz 7 (2%) |
| Nov 2nd | | Last Day to Drop with a W | |
| 9 | Oct 30th – Nov 5th | Gnathostomes and cartilaginous fishes<br>Osteichthyes- the bony fishes<br>Local examples | Fish ID and Observation (4%)<br>Natural History Journals: Free (1%)<br>Cumulative Content Quiz 8 (2%) |
| **Nov 9th-13th**<br>**Dalhousie University Study Break**<br>**Note: Week 10 material will be released Nov 6th.** | | | |

**Table 1 (Con't):** Weekly Scheudule

| | | | |
|---|---|---|---|
| 10 | Nov 16th- 19th | The origin of tetrapods<br>The move to land<br>Lissamphibia- extant amphibians<br>Local Examples<br>Information Literacy | Information Literacy Project (6%)<br>Natural History Journals: Free (1%)<br>Cumulative Content Quiz 9 (2%) |
| 11 | Nov 20th - 26th | The reptiles<br>Archosaurs: crocs and dinosaurs<br>Origin of flight<br>Local examples<br>Community Science Revisited | Natural History Journal: Surveys (1%)<br>Habitat Biodiversity: Final Revision (3%)<br>Cumulative Content Quiz 10 (2%) |
| 12 | Nov 27th- Dec 3rd | Modern birds<br>Amniotes<br>Mammals<br>Local Examples<br>Survey Methods | Community Science Project (4%)<br>Natural History Journal: Free (1%)<br>Cumulative Content Quiz 11 (2%) |
| 13 | Dec 4th & 8th | The big picture | |
| Final Exam Period<br>Dec 10th- 20th | | **December 17th, by 11:50 pm Natural History Final Project (10%)**<br>**Final Cumulative Exam (22%)** | |

## Course Materials

REQUIRED:

- Hickman CP Jr, Roberts LS, Keen SL, Larson A, Eisenhour DJ. 2015. Animal Diversity. 8th ed. Boston: McGraw Hill, 479 p.
  Notes:
  - All testable material will be presented in lecture
  - You can purchase an electronic copy of this book through the Dalhousie Bookstore
  - Unfortunately, the publisher will not allow us to place an electronic copy on reserve in the library
  - This book is a great resource for Biol/ Mari 3301 (Invertebrate Biology) and Biol 3326 (Vertebrate Design)
  - It is acceptable to use the 7th edition of Animal Diversity.

- To participate in the Dalhousie BioBlitz you will need to create an iNaturalist account. If you live in Canada create your account on iNaturalist.ca. If you live outside of Canada create an account on iNaturalist.org. There are a couple of other places with their own iNaturalist systems, like New Zealand, if you live in one of those places sign up to your local account. Once you create an account on one of the systems, the log in and password will allow you to log into the other.

  Your username will be public facing, so avoid using your netID or Banner number. When you set up your account you will be prompted to make a few decisions, including what type of license you will post your photos under. What you choose becomes the default, although you can change it at a later date. You can read about the various Creative Commons licences here: https://creativecommons.org/licenses/

**Online presence**

Twitter: The class maintains a class twitter feed @DalBiodiversity. This account is used to share articles about biodiversity, news from around Dalhousie and the occasional picture. I believe this account is a nice model of how to have a professional social media presence. In the past year I have noted several job ads that required social media skills, so cultivating a professional online persona is something you should consider putting in place.

You are not obliged to sign up to twitter or follow this feed. However, this feed is for you if want articles on biodiversity, animals, plants, and the occasional picture. As a general rule we will not follow student accounts (we're sure there are things you want to tell your friends and not us).

LibGuide: The Dalhousie University Science Librarian, Michelle Paon, has put together a subject guide for biology. On this page you will find links to the key databases, relevant books, writing guides, and other useful research tools. You can find the subject guide here: http://dal.ca.libguides.com/biology_2000_level, and as a link on the brightspace page.

**Course Assessment:** Assessment in this class use the Dalhousie Common Grade Scale as presented below.

**Conversion of numerical grades to Final Letter Grades follows the <u>Dalhousie Common Grade Scale</u>**

| | | | | |
|---|---|---|---|---|
| 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) | |

When assigning final grades, the first decimal place will be considered.

The common grade scale defines achievement of each grade level as follows:

A- to A+: "Considerable evidence of original thinking; demonstrated outstanding capacity to analyze and synthesize; outstanding grasp of subject matter; evidence of extensive knowledge base."

B- to B+: "Evidence of grasp of subject matter, some evidence of critical capacity and analytical ability; reasonable understanding of relevant issues; evidence of familiarity with the literature"

C- to C+: "Evidence of some understanding of the subject matter, ability to develop solutions to simple problems; benefitting from his/ her university experience"

**Biol 2003 WOW Factor**: For each assignment in this course, submitting work which fulfills the requirements of the assignment will earn you a good grade. However, maximum points will only be awarded for exceptional work. Exceptional work can result from presentation, a creative approach, expansion of the content, or linkage of the content to other classes. In short there is no single definable factor that will make your work exceptional, instead it will reflect the criteria outlined in the A- to A+ definition.

When thinking about the 'WOW factor', consider the community you are training to be a part of, ie. a biological scientist. This community values characteristics such as building on the work of others, good experimental design, creativity, clear data presentation and analysis, excellent descriptions, thoughtful observations, and a wide variety of other skills. How have you emulated these skills in your work?

The following table outlines how your final grade will be calculated in this class. Brief descriptions of the various components will be presented following the table.

**Table 3** Course Assessment Components, value and due dates.

| Evaluation Component | Weight (% of final grade) | Due Date |
|---|---|---|
| Cummulative Quizzes | | |
| Quiz 1 | 2 marks | September 17th |
| Quiz 2 | 2 marks | September 24th |
| Quiz 3 | 2 marks | October 1st |
| Quiz 4 | 2 marks | October 8th |
| Quiz 5 | 2 marks | October 15th |
| Quiz 6 | 2 marks | October 22nd |
| Quiz 7 | 2 marks | October 29th |
| Quiz 8 | 2 marks | November 5th |
| Quiz 9 | 2 marks | November 19th |
| Quiz 10 | 2 marks | November 26th |
| Quiz 11 | 2 marks | December 3rd |
| Habitat Biodiversity Project | | |
| Data Presentation | 1 mark | September 17th |
| Data Trends & Interpretation | 1 mark | September 24th |
| Results | 4 marks | October 8th |
| Discussion & Citation | 6 marks | October 22nd |
| Revised Project | 3 marks | November 19th |
| Natural History Journals | | |
| Your Place | 1 mark | September 24th |
| Scavenger Hunt | 1 mark | October 1st |
| Species List | 1 mark | October 8th |
| Drawing | 1.5 mark | October 15th |
| Free | 1 mark | October 22nd |
| Observation to Questions | 1.5 mark | October 29th |
| Free | 1 mark | November 5th |
| Free | 1 mark | November 19th |
| Vertebrate Surveys | 1 mark | November 26th |
| Free | 1 mark | December 3rd |
| Final Project Proposal | 0 marks | No later than October 13th |
| | 10 marks | December 18th |
| BioBlitz | | |
| Participation during Event | 3 marks | September 18th- 20th |
| Results Summary | 1 mark | September 24th |
| Other Assignments & Exams | | |
| Mollusc Question | 2 marks | October 15th |
| Information Literacy Project | 6 marks | November 19th |
| Fish ID and Descriptions | 4 marks | November 5th |
| Community Science Revisited | 4 marks | December 3rd |
| Final Exam | 22 marks | Scheduled by Registrars Office |

**Brief Descriptions**

**Weekly Quizzes**: 22% of your grade will come from weekly cumulative quizzes. These quizzes will have both multiple choice and short answer questions in them. Quizzes will open at 12:10 am on Thursday and must be completed by 11:50 pm on Thursdays. For each quiz you will be given 20 questions, while the majority of questions will be based on the current week's material, some questions will be drawn from the previous week's material.

The quiz structure is as follows:

- Some questions will draw from any of the previous week's material.
- You will have one attempt at the quiz
- You will have 20 minutes to complete the quiz
- Only one question will be presented at a time
- You will only be able to move forward through the quiz, i.e., you will not be able to return to previous questions.

**Final Exam:** 22% of your grade will be based on a cumulative final exam. The date for this exam will be scheduled by the Registrar's office during the final exam period, December 10th- 20th. Like the weekly quizzes this exam will consist of a mix of multiple choice and short answer questions. Each question will be presented once and you will not be able to move backwards through the exam.

**Habitat Biodiversity Project:** This project is worth 15% of your grade. For this project you will be given the introduction, methods, and raw data and asked to write the results, discussion, and literature cited portions of the project. The raw data will be released the week of September 7th- 11th, and you will be asked to submit your work in stages.

**Dalhousie BioBlitz**: 4% of your grade results from participating in and preparing a summary of some aspect of the results. This year the Dalhousie BioBlitz will be a virtual event that takes place on the weekend of September 18th-20th. The virtual BioBlitz will be a project on iNaturalist.org. You will need to create an account on either iNaturalist.org or iNaturalist.ca The two sites are linked so if you live in Canada make an account on the .Ca site. If you are outside of Canada make your account on the .Org site. More details on this event will be shared closer to the date.

**Natural History Journals**: 11% of your grade results from the weekly Natural History Journal Submissions. 10% of your grade will result from the final project.

While we would much rather be teaching in person and sharing our love the animals found in our local environment, the benefit of teaching online is that we are going to learn about the animals in your backyard, and by extension around the world. We are going to use a Natural History Journal to track and report your explorations. Throughout the term we are going to introduce you to various aspects of Natural History Journaling for you to try your hand at.

The final project associated with your Natural History Journal is to produce a piece of work that reflects what you have learned in this class. The form of this project is up to you and your own creativity. It may be a piece of art, a game, a craft, poetry, infographics, a field guides, or a traditional paper. Maybe you would like to give back to your community by adding to Wikipedia pages, or trying your hand at various citizen science projects, or producing education activities for a local school or activity group. This list is not exhaustive, and you are welcome to propose additional ideas. Along with the project you will provide a 2-3 page written reflection on how your project relates to what you have learned in the class and to the place you explored in your Natural History Journal. A marking rubric for this project will be shared with you at the start of the term.

**Other Assignments**: 16% of your grade results from other assignments scattered across the term. These include the mollusc question assignment (2%), the fish ID and description assignment (4%), the information literacy project (6%) and the citizen science assignment (4%). These will allow you to practice specific skills or explore topics in greater depth and will be introduced during the appropriate week.

**Course Objectives/Learning Outcomes**

The biology department has created a curriculum map of the courses it offers. If you are interested in seeing the map, you can find it at: https://biology.academics.cs.dal.ca/

On that page if you click on the courses link, you will come to a list of all the courses offered by the biology department. Clicking on any of the individual classes leads to a class page, with a map for the class, illustrating what classes are needed to take the class and what subsequent classes require the class of interest.

Below the map, you'll find a list of assumed learning outcomes; these are the skills and topics a student is expected to know at the start of the class. Following this list is a second list of student learning outcomes, these are the topics and skills a student is expected to learn during the class of interest.

The assumed learning outcomes, the list of skills and topics we expect you to be familiar with at the start of Biology 2003, include:

- Create scientific questions, propose a written hypothesis as a tentative answer to that question and generate observable predictions consistent with that hypothesis.
- Describe basic animal body plans and identify different tissue types.
- Explain exponential population growth and intraspecific competition.
- Explain why community or food web structure is likely to change if a top predator is removed.
- Explain why small population size is of concern to conservation biologists.
- Provide examples of how biological interactions (competition, predation, mutualism) structure communities.
- Understand the features that allowed transition from aquatic to terrestrial environments.
- Use and know when to make use of common biological research tools such as compound microscopes, gel electrophoresis units, pipettors and micropipettors, bioinformatics tools, and enzyme assays.

- Analyze data using basic statistical techniques (mean, standard deviation, n, chi-square test).
- Collect both quantitative and qualitative data through careful observation.
- Describe early developmental processes in sea urchin, frog and humans.
- Describe the form and function of skeletal muscles and cardiovascular, digestive, endocrine, excretory, immune, and respiratory systems, using the human model as an example.
- Interpret animal social behaviour in light of natural selection (costs and benefits).
- Know main animal diet types and adaptation to those diets.
- Report data using written descriptions, graphs, tables, and sketches.
- Use simple models to describe unlimited (exponential) and limited (logistic) population growth.

The student learning outcomes, the list of skills and topics we expect you to learn during Biology 2003, include:

- Assess credibility of source material
- Describe conservation issues facing taxonomic and functional groups of metazoans
- Identify major invertebrate and vertebrate taxa
- Use raw data to produce summary statistics and plots
- Use taxonomic keys
- Associate metazoan phyla with the habitats/environments that they occupy
- Compare classification of metazoans into major clades: protostomes/ deuterostomes, ecdysozoans, lophotrochozoans
- Generalize and appreciate animal diversity on a global scale
- Relate changes in animal systems to transition onto land
- Describe the Geologic history and time-scales associated with the evolution of metazoans
- Compare the variety of invertebrate and vertebrate animal body- form, ecologies, life histories, and physiology
- Relate animal phyla to key transitions on a cladogram

## Course Policies

**Late assignment policy:** Unless otherwise stated all assignments are due at 11:50 pm on the Thursdays. Late assignments will penalized at 10% per day.

We understand that at some point during the term you will have to miss some instructional time due to illness or other exceptional circumstances. If you cannot submit an assignment it is your responsibility to alert Lara (ldgibson@dal.ca), so that appropriate arrangements can be made.

If you are going to miss a quiz or exam please reach out to Lara (ldgibson@dal.ca), and an alternate date for writing will be arranged.

**Referencing & Photo Credits:**

Text: When crediting other people's work please use the Name-Date system of the Council for Science Editors (CSE) style. There is a link to the style guide on the brightspace website.

In your work, ANY and ALL statements that were not empirically derived for yourself as part of an experiment or study, for that assignment, must be credited to a source. In text citations should be given as (Name Date), and all sources should be collected into a list at the end of your work and presented in CSE style. Your source list should be in alphabetical order.

A skill you should be cultivating throughout your academic career is to determine the credibility of your sources. The peer review process, where the methodology, results and broader context of an experiment are written up and submitted to other researchers in the same field of study are the most credible forms of published work. Books and documentaries often draw their evidence from the peer-reviewed literature and are edited. These make them credible sources. New articles may or may not be based on peer-reviewed sources and so have varying degrees of credibility. Web sources can be very confusing, some are based on the peer reviewed literature, some are based on people's unsupported opinion or current working theories.

There is a credible checklist flowchart to help you determine the credibility of web sources. A PDF copy of the flowchart document is located on brightspace, under the lab folder. The flow chart was developed based on the criteria outlined by Dalhousie University Librarians.

Please use the flowchart in conjunction with the following table (This will also be posted on brightspace as a word document). As you move through the flowchart add "+" or "-" to your table. As you increase the number of "-" signs the credibility of your site decreases. After you have gone through all criteria you can determine if you site is credible, less credible or not credible.

**Table 4** Summary of online source credibility

| Web Site | 1. Authority | 2. Purpose/ Objectivity | 3. Currency | 4. Accuracy | Overall |
|---|---|---|---|---|---|
| 1. | | | | | |
| 2. | | | | | |
| | | | | | |

If you are using websites as references, please include the table as an appendix to your report.

Photos: Not all photos presented on the internet are available for use. Some were developed for specific companies or sites and require permission or payments for use. However, if you look around you can often find photos that are published with creative commons or educational use licenses. A good source for useable photos is http://commons.wikimedia.org/wiki/Main_Page

If it unclear under which type of license the photo was posted, you must contact the creator of work to ask permission to use it for your project.

When you present a photo you should place the name of the photographer and the license under which the photo is being used beside the photo. The full reference for where the photo was taken from should be included in your reference list.

For example if you wanted to use this super cute photo of a Tardigrada in a presentation you could include the tag "Bob Goldstein & Vicky Madden, Creative Commons license", either underneath or beside the photo.

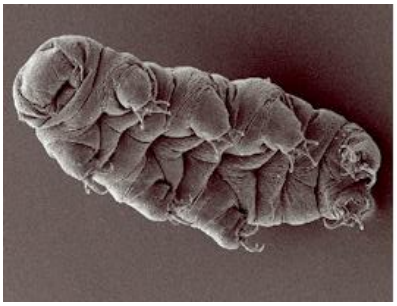

Figure 1: Tardigrada. Bob Goldstein & Vicky Madden, Creative Commons license.

Then in your reference list you would include the full reference of:

Goldstein B, Madden V. 2008. Wikimedia commons [Internet]. USA: UNC Chapel Hill; [2008 May; cited July 30, 2015]. Available from: https://commons.wikimedia.org/wiki/File:Waterbear.jpg

At some point you may want to use video in your work. YouTube is a good source, but again you need to watch what type of license the video is published under. If it is the standard YouTube license, you can play the video from the YouTube platform, but cannot download it or embed in your presentation. If it is under a creative commons license, you can download and embed it. One thing to watch for is pirated video, ie, clips from shows like The Blue Planet or Shape of Life. If the clips are hosted on the production companies YouTube channel, chances are you may use them. However, if the clips have been posted by a private individual who has taken the clips from a video, it is not likely posted under fair use.

If you use photos/ video in your work, you must 1) ensure the photo is licensed under a creative commons, public domain, or educational use license, and 2) on or near the photo indicate who the photographer is and the type of license it is used under.

**ANIMAL OBSERVATIONS & DISSECTONS:** All animal observations and dissections have been approved by the University Committee on Laboratory Animals at Dalhousie University. Activities are completed under protocol number I20-11, valid through September 1, 2022.

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

### 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

### 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

### 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

### 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 the office (Rm 3037, McCain Building), e-mail (elders@dal.ca) or leave message (902-494-6803).

**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 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**: http://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