

PSYO/NESC 3170.03 Hormones and Behaviour
Winter 2025 term

Dalhousie University operates in the unceded territories of the Mi'kmaw, Wolastoqey, and Peskotomuhkati Peoples. These sovereign nations hold inherent rights as the original peoples of these lands, and we each carry collective obligations under the Peace and Friendship Treaties. Section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights in Canada. Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

Dates and format	Instructor	Teaching assistant
January 6 – April 3, 2025 MTR 16:35-17:25 LSC C238 In person (flipped classroom)	Broderick M. B. Parks* , M.Sc. (he/him) brodiebp@dal.ca *Just call me Brodie, please! Office: LSC P4316A Drop-in/office hours: see Brightspace	Cory Munroe , B.Sc.(Hons) (he/him) Cory.Munroe@dal.ca Cory will not be holding regular drop-in/office hours (contact via e-mail)

Course description (from Academic Calendar): This course examines how chemical signals of the neural, endocrine, and immune systems interact to influence the brain and behaviour and how neurotransmitters, cytokines, and hormones control neural and behavioural development, sexual, aggressive, and maternal behaviour. Hormone receptors in the brain, reproduction, puberty, brain sex differences, and stress are also examined.

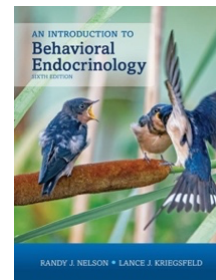
In addition to covering what we know about hormones and their effects on brain and behaviour, **there is a strong emphasis in this course on research design, data interpretation, and scientific communication. That is: *how do we know what we know, what reasonable conclusions can we draw from a study's results given its research design, and what is the best way to communicate science accurately and honestly?*** To that end, lectures will involve interpreting and evaluating empirical research, considering the implications of empirical work on underlying theory, and discussing applications to practice.

Course pre-requisites: PSYO/NESC 2470 (Systems Neuroscience) or PHYL 2041 (Human Neurophysiology)

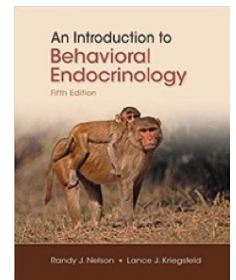
Note: While not an official pre-requisite, PSYO/NESC 2000 (Methods in Experimental Psychology and Neuroscience) is **strongly recommended** for students taking this course. Students without PSYO/NESC 2000 are encouraged to be proactive about filling any knowledge gaps which may prevent success.

Required textbook: Nelson RJ, Kriegsfeld LJ (2023) *An Introduction to Behavioral Endocrinology*, 6th edition. Oxford University Press/Sinauer.

- Hard copies of the 6th edition are available for purchase from the university bookstore; **e-book is also available via Campus eBookstore** (see Brightspace for more details)
- The 5th edition of this textbook **is also suitable for this course** and has been used in previous terms (up to Winter 2022)
 - Readings are provided on Brightspace for both the 5th and 6th editions (print and e-book).
 - **Used copies (5th or 6th eds.) may be available.**
- Three copies of the 6th edition are available on short-term (2 hour) reserve loan at the Killam Library.
- **If the textbook cost is prohibitive for you, please contact Brodie – there are solutions!**



6th edition
(pub. 2023)



5th edition
(pub. 2017)

Course format

This course is divided into three units: the first unit (Weeks 1-4) covers the fundamentals of behavioural endocrinology, the second unit (Weeks 5-9) covers classical topics, and the final unit (Weeks 10-13) covers special topics. Each unit is divided into several weekly (ish) modules, with each weekly module consisting of 3-4 lecture topics (see page 9 for a detailed schedule).

This course follows a flipped classroom approach. In this format, “passive” learning is done by students *IN ADVANCE* of the in-person “active” learning sessions. Course materials, including readings, pre-recorded lecture videos, lecture slides, and other additional links/videos, are posted in advance (often on a week-by-week or unit-by-unit basis). **Students are expected to complete the relevant materials for each topic (including watching pre-recorded lecture videos) BEFORE ATTENDING the in-person classes.** **The dates listed on the course schedule (page 9) are for the in-person classes.**

Most (if not all) in-person class time (50 min × 3 days/week) will be devoted to **active learning**. Associated with each pre-recorded lecture video/topic is a short active learning activity – PDF copies of the active learning materials are provided with each lecture video. **You are strongly encouraged to complete (or try completing) the active learning materials after watching the pre-recorded lecture, but before the in-person session.** During the in-person sessions, the teaching team may take time to review the lecture materials (readings, pre-recorded lectures), but these active learning activities will generally form the basis of the in-person sessions. Example active learning activities include creating summary tables/flow charts, answering/critiquing previous exam questions, analysing/critiquing new study designs, etc. **Note that additional content (not covered in pre-recorded lecture videos) may be discussed during the active learning sessions, and this content is considered testable on exams.**

Assessment and grades:**Overview of assessments**

Assessment	Important dates
Exams (3 total)	Exam 1 – January 30 Exam 2 – March 6 Exam 3 – TBD (scheduled by Registrar during April exam period; April 9-26)
Quizzes (10 total)	Weekly – due Fridays at 11:59pm (Halifax time) – see page 9
Written Assignments Science Communication & Literacy (2 total)	Assignment 1 – solo or group assignment (maximum 4 students per group) Assignment 2 – solo assignment Last day to submit both assignments – April 6

Assessment schemes

Assessment	Scheme 1	Scheme 2	Scheme 3
Exam 1	20 marks	60 marks (lowest = 10 marks; other two = 25 marks each)	25 marks
Exam 2	20 marks		25 marks
Exam 3	20 marks		25 marks
Quizzes	20 marks (best 8 × 2.5 marks each)	10 marks (all 10 × 1 mark each)	--
Assignment 1	10 marks	15 marks	10 marks
Assignment 2	10 marks	15 marks	15 marks

At the end of term, final course grades will be calculated according to all three assessment schemes (above) and **the scheme that produces the highest grade will be the final numerical grade**. The final numerical grade (out of 100) will then be converted to a final letter grade according to the Dalhousie University Common Grade Scale (below). **Final numerical grades are rounded up at 0.50 or higher. Grades cannot be adjusted with extra work.**

Dalhousie University Common Grade Scale

Letter	A+	A	A-	B+	B	B-	C+	C	C-	D	F
Numerical	90-100	85-89	80-84	77-79	73-76	70-72	65-69	60-64	55-59	50-54	0-49

Exams:

Exams are completed **in-person (in LSC C238)** on the dates listed on pages 2 and 9. There are 3 exams total – one at the end of each unit, covering **all previously unexamined material** delivered up to the date of the exam, including: (1) readings; (2) pre-recorded lectures; (3) in-person sessions (and active learning activities); and (4) any other posted materials (journal articles, videos, links, etc.). **Exams are NOT cumulative.** Exams 1 and 2 are **50 minutes long** and will be written on **January 30th (Exam 1)** and **March 6th (Exam 2)**. Exam 3 is **120 minutes long** and will be written during the April exam period.

Exams will generally consist of short- and long-answer written questions. Exams **will** test your ability to remember content discussed in class, **but more importantly, exams will also test your ability to apply the content you've learned in class to new situations.** To help with this, you will be permitted to bring one **handwritten** reference sheet to complete exams. If you use a reference sheet to complete your exam, **you must submit it alongside your completed exam.** More details regarding reference sheets will be discussed in class.



IMPORTANT: You are required to complete exams INDEPENDENTLY. You are welcome to study with your peers in advance of the exams, **but exams must be completed individually.** Evidence of collaboration during exams is considered a violation of Dalhousie's Academic Integrity policies and will be dealt with according to the disciplinary procedures outlined by the Faculty of Science and University Secretariat (see Section 'B', page 10).

As students, you will be held to these standards this term – so it is important that you know what they entail. If you are unsure, contact Brodie for guidance.

Student Declaration of Absence (SDA): Missed exams must be communicated to the course instructor **immediately.** Students who miss an exam **are required to write a make-up exam at a later date**, in consultation with the instructor. To be eligible for a makeup exam, you must fill out and sign a SDA form (available on Brightspace) and submit it **ONLINE** (via the Brightspace folder) **within 24 hours of the original exam date (i.e., by 5:30 PM Halifax time the day after the original exam date).** **Sending an e-mail to the course instructor (or TA) without submitting a SDA on Brightspace is not sufficient.** Students who do not submit a signed SDA within 24 hours will automatically receive an exam mark of 0.

Further information regarding makeup exams will be communicated directly to students writing the makeup via e-mail. Makeup exams may be in person or online (via Brightspace).

There is no limit to the number of SDAs that can be submitted per term, but SDAs can only be used for course exams. SDAs CANNOT BE USED for other course assessments (quizzes, written assignments, reflections) and CANNOT BE USED to transfer the weight of one exam to another.

Quizzes:

Weekly quizzes are completed on Brightspace and are open-book. Quizzes cover **all material** delivered since the previous quiz (unless otherwise indicated), and will generally consist of a short number of questions (e.g., multi-select, multiple choice, fill-in-the-blank, matching/ordering). **You have 30 minutes* to complete each quiz (*see pages 6-7).** To prepare you for exams, quiz questions will generally be **application-based**, rather than content-based.

If your final course grade is calculated using assessment scheme #1 (page 2), your lowest TWO quiz scores (including any missed quizzes) will be dropped. If your final course grade is calculated using assessment scheme #2, all 10 quiz scores will count towards your final grade. If your final course grade is calculated using assessment scheme #3, NO QUIZ SCORES will count towards your final grade. **Regardless of the assessment schemes, all students are strongly encouraged to complete all quizzes, as they will give you a good sense of the type(s) of questions you may be asked on exams.**

Because quizzes are released immediately after the due date, **makeup quizzes are not possible** in the interests of academic integrity. Before each exam, tricky quiz questions will be reviewed in short “post-mortem” videos posted to Brightspace. “Self-post-mortems” are strongly encouraged, as quiz questions may be recycled on exams.

Written Assignments – Science Communication and Literacy:

Behavioural endocrinology is a flourishing field of research. As a consequence, hormones (and their effects on the brain, physiology, and behaviour) are brought up *all the time* outside of the academic/scientific realm, especially in mass media or “popular” science, and often in ways that may not be the most scientifically accurate or rigorous – for example, just think about how many times you’ve heard about hormones on social media or in ads for products. As consumers, we should be constantly evaluating the (sometimes wild) claims about hormones and/or their effects. As scientists, we should be similarly critical when evaluating new scientific research generated in the academic sphere.

Throughout the term, we will learn about the role of hormones in a wide variety of subjects of (topical) interest, including reproductive development, sex and gender differences in brain/behaviour, sexual behaviour, stress, affective disorders, and more. We will also learn about the importance of using a solid research design when studying hormones and behaviour. **For these written assignments, you will apply this new knowledge (as well as the critical thinking/scientific literacy skills you have built throughout your degree) to both popular media and academic research articles focused on hormones and behaviour.**

In Assignment 1, which **can be completed solo OR in groups (maximum 4 students per group)**, you will evaluate a topic, claim, product, or piece of content popularized by popular/social media or culture (of your choice) related to hormones and behaviour. Be creative when choosing your assignment topic/source – particularly outlandish content/claims/products is/are welcome (and strongly encouraged!). **In Assignment 2**, which **must be completed individually**, you will summarize and evaluate a recently-published empirical journal article (of your choice) related to hormones and behaviour. **Hint:** choose an article related to a topic you enjoy – it will make the writing easier, and more interesting!

Full instructions for Assignments 1 and 2 (including word count, formatting, etc.), as well as rubrics and (graded) example assignments are available on Brightspace. These instructions also contain important information on how to choose your assignment topic (#1) and journal article (#2) – **please review these instructions carefully before submission. You will lose marks if you choose a topic/article that is not appropriate/relevant for the assignment.**

Assignments can be completed and submitted anytime throughout the term. However I recommend waiting until we start Unit 3 (Week 10) before getting started. In theory, you can complete and submit both assignments early in the term to get them over with – but, the point of these assignments (and a key part of how they will be evaluated) is for you to apply the knowledge you’ve learned in this course and use a critical eye when evaluating your sources. That is, to do well on these assignments, you need to know a bit about hormones and behaviour before starting. These assignments are intended for you to think critically, not write *ad nauseam*. Both assignments are relatively short and can be completed on this suggested timeline.

The last day to submit both assignments is Sunday, April 6th at 11:59 PM Halifax time. I am offering a three-day grace period after the April 6th deadline for students to submit without penalty. Late submissions (submitted after the grace period ends) will be penalized in 10% increments per day (= 24 hrs) late, up to a

maximum of 4 days. Assignments submitted after Sunday April 13th at 11:59 PM will receive a mark of 0, no exceptions.

Pre-Exam Reflections (Bonus Opportunities):

Before every exam, you will have the opportunity to reflect on what you've learned in each unit and earn bonus marks towards your final course grade. These activities consist of short written reflections where you will answer four open-ended questions encouraging you to analyze, reflect, relate, and generate questions based on what you've learned in each unit. This activity is based on an article by [Diez-Uhler and Lanter \(2009\)](#) published in the journal *Teaching of Psychology*. **Completing pre-exam reflections is entirely OPTIONAL, but students who complete the reflections will receive a bonus 0.5% per reflection (= 1.5% TOTAL for all three reflections) on their final course grade.** Students must give complete answers to all four reflection questions in order to receive the bonus 0.5% - there are no part-marks for the reflection assignment.

Pre-exam reflections will be available for **one week** in advance of each exam and will close at 11:59 PM (Halifax time) the night before each exam. Submissions outside the availability period will not be accepted.

More information on pre-exam reflections will be available on Brightspace closer to each exam.

Additional bonus opportunities may be available throughout the term; all bonus marks are awarded at the instructor's discretion.

IMPORTANT course-specific policies:



What does “open-book” actually mean? Quizzes in this course are open-book, meaning you can use lecture notes, lecture slides, recordings, the textbook, and any other course materials when completing assessments. In principle, this means you **can** also conduct general internet searches when completing the quizzes (I don’t use proctoring software to prevent this, as I think it’s a gross violation of your privacy as a student). That said, please remember: **quiz questions are generally application-based** (i.e., not particularly conducive to simple Google searches or AI/LLMs like ChatGPT) and will be evaluated based on what is discussed in this course, **not what is out there on the internet.**



On plagiarism: Assessments in this course are intended to test how well you know (and can apply) course material – NOT how well you can copy/paste lecture notes or recording transcripts. Your answers on written assessments in this course, especially on short answer/written exam questions, **MUST be written in your own words. Answers that are copied and pasted from course slides and/or recording transcripts will not receive full marks. This is especially important to keep this in mind when creating your exam reference sheets, as well as when completing long-answer exam questions.**

If when completing any assessment in this course you are inspired by something online or from outside course materials (e.g., something you learned in another course), **you must cite/include your source (including links to your source). Answers derived from outside sources/materials may be eligible for marks only if a source is listed.**

Assignments 1 and 2 may be scanned with originality software (see page 11), but I recognize that some of the things flagged by this software are sometimes absurd and that coincidences do happen. I assume good faith unless there is a clear reason to suspect genuine plagiarism.



On the use of generative artificial intelligence and large language models: I expect that the work you submit (including your quiz submissions and assignments) be the product of your own thoughts and time – **not a product of generative AI tools or LLMs.** The teaching team will be monitoring this closely throughout the term. **Any work that is found to be AI-derived will automatically receive 0 AND will be immediately referred to an Academic Integrity Officer in the Faculty of Science for a hearing. No exceptions.** You are more than welcome to consult these tools to prepare for assessments – but these are strictly prohibited for use on the assessments themselves.



Time limits (quizzes): Quizzes are generally available as soon as each week’s content is posted, and close at 11:59 PM (Halifax time) on the specific due date (see page 9). You may complete quizzes anytime during the availability window is open.

While there are time limits associated with quizzes (30 minutes), **your quiz will not end or shut down automatically after these time limits have elapsed.** The purpose of this flexibility in assessment timing is to eliminate any pressure (or stress) associated with internet connectivity issues, computer troubles, time zone differences, assessments in other courses, work schedules, and/or other extenuating circumstances. **This also allows students with formal accommodations from the Student Accessibility Centre to work within their accommodations as needed, without any additional Brightspace intervention. However, this flexibility with exam/quiz timing should not be abused.** Quizzes in this course are not “take-home” assessments – they are designed to be completed in one sitting and within a particular timeframe. **The teaching team will be monitoring assessment times to ensure students are completing assessments within appropriate (but flexible) time limits.** Students who abuse this flexibility without a reasonable explanation may receive a penalty and/or be referred to Academic Integrity.



Availability windows (quizzes): So long as you enter the online quiz on Brightspace BEFORE the availability window closes (11:59 PM for quizzes), you will have the full time to complete your quiz. That said, **you are strongly encouraged to give yourself ample time before the availability window closes to write your quizzes/exams.** If you get “locked out” of a quiz after the availability window closes (i.e., because of computer/internet issues), you may not be able to get back into the quiz/exam without an override from the teaching team. **Please note that the teaching team DOES NOT guarantee they will be monitoring e-mails after the quiz availability window closes (i.e., late into the evening/overnight) to grant overrides.**



Reviewing quiz submissions: You will be able to review your graded quiz submissions on Brightspace after grades are posted. Correct answers to quiz questions are not visible (in the interests of academic integrity).

Reviewing exams: Graded exams will be available for viewing during Brodie’s drop-in/office hours for TWO WEEKS after exams grades are posted. After this time, graded exams will only be available for viewing by appointment only.

Recommended sequence for success in PSYO/NESC 3170:

As in all 3000-level courses in PSYO/NESC, there is a lot of material to cover this term. To stay on top of this course, I recommend tackling each week’s material in the sequence outlined below.

For each topic/lecture:

1. Read the readings.

- Before watching the pre-recorded lecture, take a first pass at the readings **without taking notes** (some might call this ‘skimming’).
- Don’t worry if you don’t understand everything in perfect detail: the purpose of this first pass is to familiarize yourself with the material at a broad-strokes, general level.
- Readings associated with each topic are fairly short, and **should typically not take more than ~30-40 minutes on this first pass.**

2. Watch the pre-recorded lecture (and all other posted materials).

- **The lecture is generally the primary source of content for each topic**, and is often where key points from the readings are discussed and expanded upon in more detail.
- Pre-recorded lectures in this course are quite short (typically \leq ~30 minutes) and lecture slides are generally image-based.
- All lectures are captioned and can be sped-up/slowed-down depending on student preference.
- PDF versions of the lecture slides are posted on Brightspace for note-taking purposes.



NOTE: Captions embedded in lecture recordings are auto-generated and may not perfectly capture the exact terminology (or spelling) of what’s being discussed in the lecture. If you have any questions about (or run into issues with) lecture captions, e-mail the teaching team.

3. Return to the readings, if needed.

- If something still doesn’t make sense after watching the lecture, return to the textbook for a closer reading. **This is where additional note-taking may be helpful.**
- The amount of time spent on this step will probably vary.
- If after re-reading the textbook things still don’t make sense, feel free to consult additional sources (material from other courses, online sources, etc.) and/or consult steps 5 and 6 (below).

4. Complete active learning materials.

- Active learning materials are usually quite short and are intended for you to apply the knowledge from the textbook/readings – which will help when preparing for exams.

- **Try and complete active learning materials *before* attending the in-person sessions** – you (and your classmates) will get more out of the sessions if you do this.
- 5. Attend in-person sessions (Mondays, Tuesdays, Thursdays 16:35-17:25 in LSC C238)**
 - If you cannot attend the session in-person, make sure to watch the posted recording shortly after its posting.
 - If you are watching the active learning session recording, still be “active” when following along with the recording – that is, if during the session you are given 2 minutes to answer a question, pause the video, answer it, and then proceed.
 - Do not wait until just before the exam to watch the in-person recordings in one pass – there will be too much to watch and you won’t get as much out of them.
- 6. Attend weekly drop-in/office hours, if needed.**
 - Each week, Brodie will be holding drop-in/office hours in the Part-Time Academic office (LSC P4316A) to answer any questions you may have about the course. Take advantage of these sessions – those hours are specifically blocked off for me to help!
 - More details on dates/times of drop-in/office hours are available on Brightspace.
 - If you aren’t able to attend the regular weekly drop-in session time, send Brodie an e-mail to book an (in-person or virtual) appointment.

Course learning outcomes:

Note: additional weekly learning outcomes available on Brightspace

1. Define hormone and distinguish it from other types of cellular communication
2. Describe the major endocrine glands and their function(s) and explain the regulation of hormone synthesis, release, and deactivation
3. Compare and contrast different classes of hormones
4. Explain the role of gonadal hormones in sexual differentiation and development
5. Evaluate evidence of hormonal influences on sex and gender differences in brain and behaviour
6. Compare and contrast effects of gonadal steroids in sexual behaviour and reproduction in males and females
7. Describe the role of daily and seasonal rhythms and their role in coordinating typical physiological and behavioural functioning
8. Describe stress hormones and explain their effects on behaviour and physiology over the lifespan
9. Describe the influence of hormones on endocrine and affective disorders
10. Evaluate and design research on hormone effects in humans and non-human animal models
11. Evaluate claims made by popular or social media related to hormones and behaviour
12. Evaluate and summarize recently published primary scientific literature in behavioural endocrinology

Course Schedule

Note: The schedule and topics listed below are tentative and are subject to change throughout the term. Consult Brightspace for the most up-to-date schedule.

Week	Date	Topic	Quizzes (*due Fridays 11:59 PM)
1	Jan 6	Course Overview	
	Jan 7	History of Behavioural Endocrinology	
	Jan 9	Hormonal Communication	
		Research Design in Behavioural Endocrinology	Quiz 1 (Jan 10)
2	Jan 13	Research Techniques in Behavioural Endocrinology	
	Jan 14	Endocrine Glands	
	Jan 16	Peripheral Hormones	Quiz 2 (Jan 17)
	Jan 20	Steroid Hormones	
3	Jan 21	Hypothalamic and Pituitary Hormones	
	Jan 23	Hormone Receptors	Quiz 3 (Jan 24)
	Jan 27	Hormone Regulation	
4	Jan 28	Exam 1 review	
	Jan 30	EXAM 1 – IN PERSON 16:35-17:25	
5	Feb 3	What are the Sexes?	
	Feb 4	Sex Determination and Differentiation	
	Feb 6	Atypical Differentiation	Quiz 4 (Feb 7)
6	Feb 10	Sexual Dimorphisms	
	Feb 11	Sex Differences in Brain and Behaviour I	
	Feb 13	Sex Differences in Brain and Behaviour II	Quiz 5 (Feb 14)
7	Feb 17-21	READING WEEK – no classes	
8	Feb 24	Male Sexual Behaviour in Rodents	
	Feb 25	Androgens and Sexual Behaviour in Humans	
	Feb 27	Ovarian Cycles	Quiz 6 (Feb 28)
		Ovarian Hormones and Sexual Behaviour in Animals	
9	Mar 3	Ovarian Hormone and Sexual Behaviour in Humans	
		Puberty	
	Mar 4	Exam 2 review	
	Mar 6	EXAM 2 – IN PERSON 16:35-17:25	
10	Mar 10	Biological Rhythms	
		Circadian Rhythms	
	Mar 11	Seasonal Rhythms	
	Mar 13	Writing Workshop – Assignments 1 & 2	Quiz 7 (Mar 14)
11	Mar 17	What is Stress?	
		Stress and Damage	
	Mar 18	Basal Glucocorticoids	
	Mar 20	Stress-Induced Glucocorticoids	Quiz 8 (Mar 21)
12	Mar 24	Early Life Stress and Coping	
	Mar 25	Special Topic(s) – to be chosen by class	
	Mar 27	Hormonal Contraceptives	Quiz 9 (Mar 28)
13	Mar 31	Hormones and Depression	
	Apr 1	Perimenstrual Syndrome	
	Apr 3	Polycystic Ovary Syndrome (PCOS)	Quiz 10 (Apr 3)

Note: Exam 3 will be held during the regular exam period (April 9-26) – the exact date is TBD and is scheduled by the Registrar's Office. Exam 3 covers material from weeks 10-14 and follows the same structure as Exams 1-2. We will also hold an Exam 3 review session before the exam.

University Policies and Statements (syllabus section ‘B’)

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 at 1321 Edward St or elders@dal.ca. Additional information regarding the Indigenous Student Centre can be found at: https://www.dal.ca/campus_life/communities/indigenous.html

Internationalization

At Dalhousie, ‘thinking and acting globally’ enhances the quality and impact of education, supporting learning that is “interdisciplinary, cross-cultural, global in reach, and orientated toward solving problems that extend across national borders.” Additional internationalization information can be found at: <https://www.dal.ca/about-dal/internationalization.html>

Academic Integrity

At Dalhousie University, we are guided in all our work by the values of academic integrity: honesty, trust, fairness, responsibility, and respect. As a student, you are required to demonstrate these values in all 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. Additional academic integrity information can be found at: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Student Accessibility Centre is Dalhousie's centre of expertise for matters related to student accessibility and accommodation. If there are aspects of the design, instruction, and/or experiences within this course (online or in-person) that result in barriers to your inclusion, please contact the Student Accessibility Centre (https://www.dal.ca/campus_life/academic-support/accessibility.html) for all courses offered by Dalhousie with the exception of Truro. For courses offered by the Faculty of Agriculture, please contact the Student Success Centre in Truro (<https://www.dal.ca/about-dal/agricultural-campus/student-success-centre.html>)

Conduct in the Classroom – Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

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 (Strategic Priority 5.2). Additional diversity and inclusion information can be found at: <http://www.dal.ca/cultureofrespect.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. The full Code of Student Conduct can be found at: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. Additional information

regarding the Fair Dealing Policy can be found at:

https://www.dal.ca/dept/university_secretariat/policies/academic/fair-dealing-policy-.html

Originality Checking Software

The course instructor may use Dalhousie's approved originality checking software and Google to check the originality of any work submitted for credit, in accordance with the Student Submission of Assignments and Use of Originality Checking Software Policy. Students are free, without penalty of grade, to choose an alternative method of attesting to the authenticity of their work and must inform the instructor no later than the last day to add/drop classes of their intent to choose an alternate method. Additional information regarding Originality Checking Software can be found at: <https://www.dal.ca/about/leadership-governance/academic-integrity/faculty-resources/ouroriginal-plagiarism-detection.html>

Student Use of Course Materials

Course materials are designed for use as part of this course at Dalhousie University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as books, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. Copying this course material for distribution (e.g. uploading to a commercial third-party website) may lead to a violation of Copyright law.

Faculty of Science Student Resources and Support (syllabus section ‘C’)

University Policies and Programs

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

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

Classroom Recording Protocol: https://www.dal.ca/dept/university_secretariat/policies/academic/classroom-recording-protocol.html

Dalhousie Grading Practices Policies:

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

Grade Appeal Process: https://www.dal.ca/campus_life/academic-support/grades-and-student-records/appealing-a-grade.html

Sexualized Violence Policy: https://www.dal.ca/dept/university_secretariat/policies/health-and-safety/sexualized-violence-policy.html

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

Learning and Support Resources

General Academic Support – Advising (Halifax): https://www.dal.ca/campus_life/academic-support/advising.html

General Academic Support – Advising (Truro): <https://www.dal.ca/about-dal/agricultural-campus/ssc/academic-support/advising.html>

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

On Track (helps you transition into university, and supports you through your first year at Dalhousie and beyond): https://www.dal.ca/campus_life/academic-support/On-track.html

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

Indigenous Connection: <https://www.dal.ca/about-dal/indigenous-connection.html>

Elders-in-Residence (The Elders in Residence program provides students with access to First Nations elders for guidance, counsel, and support. Visit the office in the Indigenous Student Centre or contact the program at elders@dal.ca or 902-494-6803: <https://cdn.dal.ca/content/dam/dalhousie/pdf/academics/UG/indigenous-studies/Elder-Protocol-July2018.pdf>

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

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

LGBTQ2SIA+ Collaborative: <https://www.dal.ca/dept/vpei/edia/education/community-specific-spaces/LGBTQ2SIA-collaborative.html>

Dalhousie Libraries: <http://libraries.dal.ca/>

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

Dalhousie Student Advocacy Services: <https://www.dsu.ca/dsas?rq=student%20advocacy>

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

Human Rights and Equity Services: <https://www.dal.ca/dept/hres.html>

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

Study Skills/Tutoring: http://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Faculty of Science Advising Support: <https://www.dal.ca/faculty/science/current-students/undergrad-students/degree-planning.html>

Safety

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

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

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

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