DALHOUSIE UNIVERSITY

Petroleum Geoscience and Energy Systems Field Methods Syllabus

Department of Earth and Environmental Sciences

ERTH4157/5157 Winter 2025

Dalhousie University acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

Instructor: Professor Grant Wach, P. Geo LSC 3060 (Earth Sciences)
Tel. 494-2358 Grant.Wach@dal.ca

Course Manager: Lauren Morris lauren.morris@dal.ca LSC 3027A (Earth Sciences)

Office hours: email to schedule meeting

Lectures: Tuesdays 5:35-8:55 pm, Basin & Reservoir Lab, 3rd floor LSC room 3027A

Course Delivery: In person lectures, field seminar & travel during February reading week.

Course Description

This course provides an advanced level overview of petroleum geology and energy systems field methods including basin analysis, source rock evaluation, seismic and well log sequence stratigraphy and depositional facies analysis, biostratigraphy, drilling and completions, petrophysics and well log analysis in addition to other topics, with a heavy focus on the transition from petroleum-based energy production to renewables and cleaner energy. The course comprises lecture, presentations, and a one-week field seminar in Trinidad. Exposed oil reservoirs, pitch lakes, oil seeps, mud volcanoes, energy storage-suitable clastic outcrops, analogous outcrop exposures and access to subsurface data sets from producing onshore and offshore fields makes Trinidad an extraordinary natural laboratory. The region provides an excellent overview of extensional and compressional tectonics and their effect on petroleum system and energy storage development. We connect with colleagues from the Canadian High Commission, Touchstone Exploration, and the University of West Indies to learn firsthand about new techniques and technologies used in Trinidadian energy transition, including the production of LNG, use of solar to power production facilities,

and clean production of ammonia from natural gas. The course comprises over 80 hours of field, laboratory and classroom study. The students meet for several weeks prior to the field course, select research topics and write their reports that then become the background material for the course. They are also responsible for writing the field safety guide and are field safety officers during the course. The students make formal presentations of the results of their study.
The students are introduced to the following in the both the field and classroom:

1) Overview of Caribbean basin tectonics and regional seismicity
2) Transect of the Northern Range and overview of Trinidad geology
3) HSE (Health, Safety and Environment) lectures
4) Modern fluvial and deltaic settings, mangrove ecosystems
5) Accommodation space and basin fill
6) Source rock, fluid migration and trap formation
7) Fluvial-estuarine and deltaic reservoirs, shelf margin delta and slope reservoir characterization
8) Outcrop and core description, gamma ray (scintillometer) and permeability logging
9) Sequence stratigraphy (integration of seismic, well log and core data)
10) Resource evaluation exercises (log correlation, structure and isopach mapping)
11) Liquid Natural Gas (LNG) production and transport and production of ammonia

Course Prerequisites

ERTH 3303 and permission of instructor through application

Course Objectives/Learning Outcomes

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

- Explain components of CCS and petroleum systems, including reservoir and source rock formation, trap, seal, accumulation, and migration
- Identify depositional environments and stacking patterns in measured sections
- Explain components of LNG production, transport, and global markets, with comparisons to Atlantic Canada
- Understand components of ammonia production through use of natural gas
- Interpret gamma ray logs to find sand/shale ratio, net sand, correlate between sections, and identify potential reservoirs
- Examine and interpret deltaic depositional systems, ichnology, and sequence stratigraphy
- Identify depositional, syn-depositional, and tectonic features in outcrops including lamination, cross stratification, ichnology, and flame structures
- Compare and contrast Trinidadian examples of petroleum systems to that of Nova Scotia, including potential for subsurface storage of CO_2 or hydrogen
- Create measured sections from analysis of outcrops and core
- Determine importance of outcrop and core descriptions in predicting subsurface depositional environments
- Interpret seismic lines to deduce potential areas of hydrocarbon accumulation as well as identify structures and faults
- Describe basic Trinidad geological and tectonic settings
- Understand the links between energy and the environment, particularly within sensitive mangrove and rain forest eco-systems

- Compare production facility renewable energy sources to emissions outputs and determine net emissions
- Examine change from high intensive carbon-based energy production to renewable sources promoting net-zero emissions

Course Materials

Suggested packing list provided (no textbook).

Course Assessment

IN-CLASS ORAL PRESENTATIONS

*In-class oral presentations are marked by both professor and students. Presentations are due as an electronic copy and are due one hour before class, emailed to the TA.

	15-12	**11-9**	**8-4**	**3-0**
DELIVERY	Effective opening and holds attention of entire audience with the use of direct eye contact. Pace and volume appropriate, inflections used to maintain audience interest and emphasize key points.	Good opening and holds attention of audience with use of eye contact, but may be relying on notes. Speaks with satisfactory variation of volume and inflection.	Displays minimal eye contact with audience and relies mostly on notes or reading from screen. Pace, volume and inflection do not engage the audience.	Holds no eye contact with audience, presentation is entirely read from notes. Speaks in low volume, uneven pace, and monotonous tone. Audience completely unengaged.
	15-12	**11-9**	**8-4**	**3-0**
QUESTIONS	Demonstrates full knowledge by answering all questions with elaborate explanations.	Is at ease with expected answers to all questions, without elaboration.	Is uncomfortable with information and is able to answer only rudimentary questions.	Does not have grasp of information and cannot answer questions about subject.
	10-8	**7-6**	**5-3**	**2-0**
ORGANIZATION	Title and contents slide present, giving a detailed overview of topic breakdown. Logical organization of subjects that flows seamlessly. Amount of slides perfectly encases topic. Clear and effective conclusion and ready for questions.	Title and overview slide present, gives little insight into topic breakdown. Logical organization of subjects, transition between could use a little work. Good amount of slides to cover topic. Clear and effective conclusion.	Title slide present but no overview. Subjects are organized poorly or out of logical order, may confuse the audience. Adequate slides to cover topic. Conclusion present but not effective.	No introductory slides at all. Disorganized and illogical flow, leaving out pertinent information. Not enough slides to cover topic. Conclusion missing or irrelevant.

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	20-16	**15-11**	**10-6**	**5-0**
GRAPHICS	Font size and style, text/background contrast, resolution, labels, legends, and colour use are all appropriate and aesthetically pleasing. Graphics are relevant to information and visuals provide audience information that text cannot. Photos and diagrams used more than text to convey information.	Font size and style, text/background contrast, resolution, labels, legends, and colour use are all appropriate. Graphics are relevant and provide some information to aid in understanding.	Font too small for entire audience to read, poor image resolution, lack of appropriate labels and legends. Graphics are somewhat relevant but barely aid in understanding. Text overpowers graphics.	Font and colour choices clash and are too distracting or unreadable. Complete lack of labels and legends. Graphics are irrelevant, incorrect, or not present.
	40-31	**30-21**	**20-11**	**10-0**
CONTENT	Provides clear purpose and subject; pertinent examples, fact, and/or statistics; supports conclusions/ideas with evidence. Significantly increases audience understanding and knowledge of topic; convinces the audience to recognize the validity and importance of the subject.	Has somewhat clear purpose and subject; some examples, facts, and/or statistics that support the subject; includes some data or evidence that supports conclusions. Raises audience understanding and awareness of most points.	Attempts to define purpose and subject; provides weak examples, facts, and/or statistics, which do not adequately support the subject; includes very thin data or evidence. Raises audience understanding and knowledge of some points.	Does not clearly define subject and purpose; provides weak or no support of subject; gives insufficient support for ideas or conclusions. Fails to increase audience understanding of topic.

REPORTS

Reports are to be written using the report template given, to ease in the compiling into report guides for the field. Follow the format of the reports written last year, it is acceptable to have the same section headings. Start with the references used last year, as most are reputable, extremely relevant articles with great graphics; then branch out to find any new articles with appropriate information. It is to be written in your own words with proper in-text citations and references to back up your statements. All reports must be submitted in paper and electronic copy by the EXACT due date, as these compiled reports are integral to your in-field course information.

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	10-8	**7-6**	**5-3**	**2-0**
ORGANIZATION	The introduction is inviting, states the main topic and previews the structure of the paper. Details are placed in a logical order and the way they are presented effectively keeps the interest of the reader. A variety of thoughtful transitions are used and clearly show how the ideas are connected.	The introduction is inviting, states the main topic and previews the structure of the paper, but is not particularly inviting to the reader. Details are placed in a logical order, but the way in which they are presented/introduced sometimes makes the writing less interesting. Transitions clearly show how ideas are connected, but there is little variety.	The introduction states the main topic, but does not adequately preview the structure of the paper nor is it particularly inviting to the reader. Some details are not in logical or expected order and this distracts the reader. Some transitions work well but connections between other ideas are fuzzy.	There is no clear introduction of the topic/structure of the paper. Many details are not in logical/expected order. There is little sense that the writing is organized. The transitions between ideas are unclear or non-existent.
	10-8	**7-6**	**5-3**	**2-0**
GRAPHICS	Relates to specific information detailed in the text. Properly formatted figure captions included, captions well written. Minimum two photos for geoscience, one photo for safety.	Graphics relate to information in the text. Figure captions included and mostly formatted correctly, captions make sense.	Few graphics included are confusing or unreadable. Graphics have little relation to content. Errors in figure captions.	Graphics completely irrelevant to text. No figure captions, incorrect figure captions. No graphics.
	10-8	**7-6**	**5-3**	**2-0**
REFERENCES & CITATIONS	All sources used for quotes, statistics and facts are credible and sited correctly. Format correct.	All sources used for quotes, statistics and facts are credible and most are cited correctly. Minor format errors.	Most sources used for quotes, statistics and facts are credible and are cited correctly. Multiple errors.	Many sources are suspect (not credible) AND/OR not cited correctly. Incorrect format.
	5	**4-3**	**2**	**1-0**
SPELLING & GRAMMAR	Author makes no errors in grammar or spelling that distracts the reader from the content.	Author makes 1-2 errors in grammar or spelling that distract the reader from the content.	Author makes 3-4 errors in grammar or spelling that distract the reader from the content.	Author makes more than 4 errors in grammar or spelling that distracts the reader from the content.
	65-51	**50-36**	**35-21**	**20-0**
CONTENT	Information clearly relates to the main topic. Includes several supporting details and examples. All of the	Information clearly relates to the main topic. It provides few supporting details and/or examples. Most	Information clearly relates to the main topic. No details and/or examples are given. At least 1 of the	Information has little or nothing to do with the main topic. Evidence and examples are NOT

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	evidence and examples are specific, relevant, and aid significantly in explaining concepts. Shows exceptional individual knowledge of topic.Good evidence of original thought.	of the evidence and examples are specific and explanations relate to well to concepts. Shows good grasp of topic knowledge. Some evidence of original thought.	pieces of evidence and examples is relevant and enforces content. Shows minor understanding of concepts. Little evidence of original thought.	relevant AND/OR are not explained. Shows little to no understanding on topic. No evidence of original thought.

CITATION/REFERENCE FORMAT

In-text citations are to be done in name-date format, i.e. Wach (2011).

The list of references at the end of the paper must follow this format:

Books: Author last name, first initial (repeat for all authors). (Date). Title. Where published: publisher.
Example: Pinker, S. (1994). The language instinct: How the mind creates language. New York: Morrow.

Journal Articles: Author last name, first initial (repeat for all authors). (Date) Title. Title of Journal, Volume (issue), page numbers.
Example: Tannenbaum RV, Leun, K, Sudha JR, & White MA (2005). A re-examination of the record: Pitty Sing's creation of compound words. Journal of Biostatistics, 20, 368-396.

Web document: Procter, M. Effective admissions letters. Retrieved Sept. 1, 2010 from http://www.writing.utoronto.ca/advice/specific-types-of-writing/admission-letters

Article in journal published only online: Hill, R. (July 1998). What sample size is enough in Internet survey research? Interpersonal Computing and Technology, 6, 3-4. Retrieved July 11, 2010 from http://www.emoderators.com/ipct-j/1998/n3-4/hill.html

FIELD NOTEBOOK

	20-16	**15-11**	**10-6**	**5-0**
FIELD GUIDE REVIEW	Evidence of significant field guide review. Daily field stop name(s), approximate locations, and GPS coordinates all present. Key objectives listed with important background information for quick reference.	Evidence of field guide review. Daily field stop name(s), approximate locations, and GPS coordinates mostly present. Some objectives listed with background information for quick reference.	Evidence of quick field guide review. Daily field stop name(s), approximate locations, and GPS coordinates sometimes present. Few objectives and background written down.	Little to no evidence of field guide review. Daily field stop name(s), approximate locations, and GPS coordinates rarely present. No objectives or background information written down.
	20-16	**15-11**	**10-6**	**5-0**

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ORGANIZATION	Table of contents present, detailed, and finished. Notes are extremely neat and organized, with a clear consistent page setup. Extremely readable and flows logically with proper titles and labels.	Table of contents present and finished. Notes are neat and mostly organized, with semi-consistent page arrangement. Readable and flows well with titles and labels present.	Table of contents partially present, but not completed. Notes are sometimes neat and organized, no consistency between page layouts. Mostly readable, some titles and labels present, can usually follow flow.	Table of contents not present or mostly unfinished. Notes are disorderly and rough, no evidence of consistency in note-taking style between pages. Hard to read, headings and labels missing, hard to follow a logical path through notes.
	10-8	**7-6**	**5-3**	**2-0**
DAILY CONDITIONS	Trip leader and additional team members listed for each day. Date listed for each day. Includes detailed weather conditions as well as a detailed transportation record including arrival and departure times, general route, and travel times.	Trip leader and most additional team members listed for each day. Date listed for each day. Includes general weather conditions as well as transportation information including arrival and departure times.	Trip leader and/or additional team members listed for most days. Date usually listed. Includes basic weather and transportation information.	Complete omission of trip leader and additional team members. Date missing for many days. Weather conditions not listed. Transportation times not recorded.
	50-38	**37-24**	**23-13**	**12-0**
FIELD OBSERVATIONS	Initial observations detailed and objective. Interpretations drawn directly from observations of geological, stratigraphic, structural, and petrological outcrops that show critical thinking and sufficient knowledge of the	Initial observations somewhat detailed and objective. Most interpretations stem from initial observations that show adequate knowledge of the rocks/processes in question. Illustrations are present in the form of sketches. Sketches are mostly labelled,	Few initial observations, not separated from interpretations. Makes specific subjective interpretation claims before basic observations. Shows some understanding of the rocks/processes in question. Illustrations are present but few. Sketches are	Little to no initial objective observations. Quick to interpret without proper initial observation, erroneous or improbable interpretations. Shows little to no understanding of rocks/processes in question. Illustrations are extremely lacking or completely

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	rocks/processes in question. Personal field stop conclusions included with each stop. Illustrations are present in the form of sketches, photographs (or reference to), and measured sections. Sketches are all properly labelled, detailed, and neatly drawn. Pages are filled in well with extra space for future notes and interpretations.	somewhat detailed, and neat enough to read. Conclusions given for each field stop with some personal interpretation. Pages are filled in adequately to allow some space for future notes and interpretations.	sometimes labelled, but lacking detail and neatness. Basic conclusion given for most field stops. Pages are a bit cramped, a bit too much writing on a single page with few breaks.	overlooked. Any sketches included are not labelled and poorly drawn. Illegible drawings. No conclusion for field stops, personal interpretation or otherwise. Too much information on each page, text and illustrations look rushed or squished into the remaining white space.

FINAL PRESENTATIONS

*If individual student is not asked a question pertaining to their section, the 10% Question component will be added to the Content component.

	10-8	**7-6**	**5-3**	**2-0**
DELIVERY	Effective opening and holds attention of entire audience with the use of direct eye contact. Pace and volume appropriate, inflections used to maintain audience interest and emphasize key points.	Good opening and holds attention of audience with use of eye contact, but may be relying on notes. Speaks with satisfactory variation of volume and inflection.	Displays minimal eye contact with audience and relies mostly on notes or reading from screen. Pace, volume and inflection do not engage the audience.	Holds no eye contact with audience, presentation is entirely read from notes. Speaks in low volume, uneven pace, and monotonous tone. Audience completely unengaged.
	10-8	**7-6**	**5-3**	**2-0**
QUESTIONS	Demonstrates full knowledge by answering all questions with elaborate explanations.	Is at ease with expected answers to all questions, without elaboration.	Is uncomfortable with information and is able to answer only rudimentary questions.	Does not have grasp of information and cannot answer questions about subject.
	10-8	**7-6**	**5-3**	**2-0**

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ORGANIZATION	Title and contents slide present, giving a detailed overview of topic breakdown. Logical organization of subjects that flows seamlessly. Amount of slides perfectly encases topic. Clear and effective conclusion and ready for questions.	Title and overview slide present, gives little insight into topic breakdown. Logical organization of subjects, transition between could use a little work. Good amount of slides to cover topic. Clear and effective conclusion.	Title slide present but no overview. Subjects are organized poorly or out of logical order, may confuse the audience. Adequate slides to cover topic. Conclusion present but not effective.	No introductory slides at all. Disorganized and illogical flow, leaving out pertinent information. Not enough slides to cover topic. Conclusion missing or irrelevant.
	20-16	**15-11**	**10-6**	**5-0**
GRAPHICS	Font size and style, text/background contrast, resolution, labels, legends, and colour use are all appropriate and aesthetically pleasing. Graphics are relevant to information and visuals provide audience information that text cannot. Photos and diagrams used more than text to convey information.	Font size and style, text/background contrast, resolution, labels, legends, and colour use are all appropriate. Graphics are relevant and provide some information to aid in understanding.	Font too small for entire audience to read, poor image resolution, lack of appropriate labels and legends. Graphics are somewhat relevant but barely aid in understanding. Text overpowers graphics.	Font and colour choices clash and are distracting or unreadable. Complete lack of labels and legends. Graphics are irrelevant, incorrect, or not present.
	50-38	**37-24**	**23-13**	**12-0**
CONTENT	Sufficient amount of time to talk individually. Provides clear purpose and subject; pertinent examples, fact, and/or statistics; supports conclusions/ideas with evidence. Significantly increases audience understanding and knowledge of topic; convinces the	Adequate amount of time to talk individually. Has somewhat clear purpose and subject; some examples, facts, and/or statistics that support the subject; includes some data or evidence that supports conclusions. Raises audience	Could have had a bit more individual talking time. Attempts to define purpose and subject; provides weak examples, facts, and/or statistics, which do not adequately support the subject; includes very thin data or evidence. Raises	Barely much time to speak individually. Does not clearly define subject and purpose; provides weak or no support of subject; gives insufficient support for ideas or conclusions. Fails to increase audience understanding of topic.

	audience to recognize the validity and importance of the subject.	understanding and awareness of most points.	audience understanding and knowledge of some points.	

EXERCISES

Stollmeyer Quarry Oil Reserve Estimate Exercise

Students visit Stollmeyer Quarry to see inside an oil reservoir and the integral components of a petroleum system. The quarry represents an oilfield. The depositional setting is an incised valley system formed within the falling stage and lowstand system tracts.

Students will examine reservoir heterogeneity including stratigraphic and structural baffles and barriers to hydrocarbon fluid flow, as well as fault compartmentalization within a hydrocarbon reservoir, and optimal well spacing for reservoir depletion. In the field, eye-height measurements are done to estimate the reservoir height and extent to determine the geobody and architectural elements. This measurement is to be included in the exercise.

1. With a given formula, students will calculate the original oil in place for the hypothetical oil field. **10 POINTS**
2. Then estimate the value for reservoir height based on field observations. **10 POINTS**
3. Recommend position(s) on the map for a new drilled well(s) to adequately drain reserves and state your reasoning. **10 POINTS**
4. Discuss well placement to adequately drain the reservoir. How many wells will be needed? **10 POINTS**
5. Estimate the recoverable oil using the number above assuming a recovery factor of 30%. **10 POINTS**

Soldado Log Correlation Exercise

We will visit a Core Lab to look at subsurface cores from the fields and basins offshore Trinidad. In addition, we will do an exercise using the Solado 745 well, referenced in Wach's article "Well Placement…" in AAPG memoir 80 provides photographs of the core in question that students can base descriptions from. The core description is then used to correlate the well logs, particularly the Gamma Ray and Resistivity. Gamma ray log explanation is in the field guide to help in the recognizing of the sequence stratigraphic framework including sequence boundaries as well as correlation. The Resistivity log helps to identify hydrocarbon bearing zones and reservoirs.

1. From description of the S-745 well, plot the corresponding lithofacies on the gamma ray log. **10 POINTS**
2. Extrapolate the petrophysical log facies to the S-484 well. **10 POINTS**
3. Pick a sand shale line and determine net sand for each well. **10 POINTS**
4. Correlate the two wells marking any sequence boundaries, flooding surfaces, and maximum flooding surfaces. **10 POINTS**

5. Take your correlations from the S-484 and S-745 wells and transfer the information to the other log sheet. Extend the correlation to the S-498 and the S-648 wells. **10 POINTS**

ADDITIONAL EXERCISES

These exercises provide additional evaluation of students' knowledge, in the case that original exercises (or parts of) cannot be completed due to unforeseen circumstances, or if there is ample time available in the evenings to complete. If completed, the Exercises component will remain at 20% with each exercise being reduced in weight to accommodate any additional exercises.

Mayaro Log Exercise

Students visit Mayaro coast, which stretches along the southeastern edge of the island. During this visit they are identifying features associated with shelf-margin deposition, comparing shelf margin delta depositional environments to coastal deltas, and measuring sections through the deltaic section including recording permeability and gamma ray data. Examining the outcrop at Mayaro allows application of learning outcomes to be applied to the subsurface logs provided.

1. Sequence stratigraphy
    a. Indicate the parasequences and stacking patterns.
    b. Indicate any flooding surfaces and candidate sequence boundaries.
2. Structure
    a. Indicate faults in the section
    b. Stratigraphic formations
3. Depositional Environments and Petrophysical Facies
    a. Identify where present the following features on the log, slope, prodelta, delta front, stream mouth bar, distributary channel, delta plain.
    b. Identify active and abandonment phases of delta lobes and compare the log signatures.
4. Log Correlation
    a. Correlate the two wells.
5. Structural Interpretation
    a. Observe the dips on the well log and as plotted from the outcrop. Make a section along the Mayaro coastline from Galeota Point to the La Brea River in the North incorporating the dips as plotted on the map. Indicate faults and formations (optional).

Seismic Line Traverse Seismic Interpretation

- During the seismic line traverse across southern Trinidad, students can refer to seismic imagery of the subsurface and relate back to what they are seeing on the surface during the drive. Students would be asked to mark any visible structures such as synclines and anticlines and locate potential areas of hydrocarbon accumulation. Labels required.

Offshore Northern Trinidad Seismic Interpretation

- Students would be asked to mark any visible structures such as synclines, anticlines, and faults, locate potential areas of hydrocarbon accumulation, and interpret the structure of the basement. Labels required.

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Offshore East Coast Trinidad Seismic Interpretation

- Students would be asked to mark any visible structures such as synclines, anticlines, and faults, locate potential areas of hydrocarbon accumulation, and interpret the structure of the basement. Labels required.

Component	Weight (% of final grade)	Date
Safety Presentation	5%	January 14th
Geoscience Presentation	5%	January 21st
Safety Report	10%	January 28th
Geoscience Report	20%	February 4th
Field Notebook	20%	March 4th
Exercises	20%	March 4th
Final Presentations	20%	TBA (March 4th/11th?)

Other course requirements

All work will be done on a professional level of presentations in class and in the field in Trinidad. You are representing the University, as well as the country. All data will be your own work. Ask questions of both your classmates and the instructor but do not copy. Plagiarizing will result in you being presented to the Senate Committee on Academic Discipline & Integrity.

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)	

Course Policies on Missed or Late Academic Requirements

Presentations and reports created by the students prior to departure serve as the background material for the class, **having these assignments in at the assigned time is crucial for everyone's success in the course.** We ask that the students are considerate of the structure of the course and the learning environment for the entire class, which includes having the assigned material in at the appropriate time.

If you expect to have issues completing something for the date assigned, please notify Professor Wach as soon as you are aware, so we can work together to find the best solution.

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University Policies and Statements

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)

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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

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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/ouriginal-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.

Student Resources and Support

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

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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

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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