Conversations with Ocean Scientists I Syllabus

Department of Oceanography

OCEA 1001.03 Fall 2024

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.

Course Instructors

Name	Email	Office Hours | Office
Laura deGelleke (prof) (she/her)	laura.degelleke@dal.ca	R 13:30-14:30 | LSC O3627E
Alexis Bazinet (TA T01) (she/her)	alexis.bazinet@dal.ca	TBA
William Nesbitt (TA T02) (he/him)	william.nesbitt@dal.ca	TBA
Kit Tymoshuk (TA T03) (they/them)	ktymoshuk@dal.ca	TBA

Lectures: Tuesdays (Sep 3 – Nov 26) @ 10:05-11:25 in LSC C338

Tutorials: Thursdays (Sep 5 – Nov 28) @ 10:05-11:25

T01 – LSC C214
T02 – LSC C338
T03 – LSC P4208

Course Description

Students engage with working ocean scientists about their research, its relevance, and how to communicate science to different audiences. In addition to regular writing exercises that include journaling, blogging, and lab reporting, students compose a research paper and follow it through the process of submission and peer-review for an in-class journal.

NOTES: This is a multiterm course. Both OCEA 1001 and OCEA 1002 must be completed consecutively in the same academic year to receive ANY credit. After completion, these courses fulfill the College of Arts & Science writing requirement.

Course Corequisites: MATH 1000.03 or MATH 1215.03 or MATH 1060.03/STAT 1060.03

Exclusions: OCEA 1000.06

Course Structure

This course meets all together on Tuesdays for lecture lead by the course instructor and in smaller groups on Thursdays for tutorial lead by teaching assistants (TAs). Each week, you can expect three types of content:

1. Ocean Core Concepts – material about basic ocean science
2. Science Communication – material about science communication, mainly scientific writing but also oral presentations and figures
3. Conversation with an Ocean Scientist – a guest lecture or short audio interview with an ocean scientist

We will cover Ocean Core Concepts material and the week's Conversation in lecture on Tuesdays. Ocean Core Concepts Reading Quizzes are due before class on Tuesdays. Participation will be graded each week.

We will discuss Science Communication material and upcoming assignments in tutorial on Thursdays. Science Communication Reading Quizzes are due before class on Thursdays. Participation will be graded each week. Assignments are always due on Thursdays before class. You will have at least one week to complete each assignment.

Course Materials

This course uses two required textbooks, one to overview basic oceanography concepts and one to overview the process of scientific writing.

1. OCEANS: A Very Short Introduction (OAVSI) by Dorrik Stow (ISBN: 978-0199655076)
2. Writing in the Life Sciences (WITLS) by Laurence Greene (ISBN: 978-0195170467)

Assessment

Your grade in this course is calculated cumulatively through both fall and winter semesters. An "MT" will temporarily appear on your transcript for OCEA 1001 (fall) until you complete OCEA 1002 (winter). Once you complete the winter term, your grade will appear for both the fall and winter terms. Because of this, some assessments listed below will occur in the winter term.

All assignments must be submitted on Brightspace and are due at 10:00 on the due date.

Component	Weight (% of final grade)	Due Date
Library Skills Worksheets	2% (2 total, 1% each)	Sep 19
Science Blog Post	4% (2 total, 2% each)	Sep 26, Feb 13
News Briefs	8% (4 total, 2% each)	Oct 10 & 24, Jan 30, Mar 6
Opinion Piece	2%	Mar 20
Review Paper	44% (total for all milestones)	
Topic Proposal	2.5%	Oct 3
Reading List	2.5%	Oct 17
Paper Outline	5%	Nov 7
Oral Presentation	5%	Nov 21
Paper 1st Submission	10%	Dec 4
Self-evaluation	2%	Jan 9
Response to Reviewers	2%	Apr 7
Paper Final Submission	15%	Apr 7
Peer Reviews	10% (2 total, 5% each)	Feb 13, Mar 6
Lab Report	10%	Jan 23
Ocean Reading Quiz	5%	Weekly online (10min)
Sci Comm Reading Quiz	5%	Weekly online (10min)
Lecture Participation	5%	Weekly in-class
Tutorial Participation	5%	Weekly in-class

Conversion of numerical grades to final letter grades follows the Dalhousie Grade Scale

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

General Course Policies

1. Include both your instructor and TA on email correspondence related to the class.
2. Allow 24-48 *weekday* hours for replies to emails. We will try, but we cannot guarantee a quicker response time.
3. If you want an extension on a due date, request one via email. Make your request in advance of the due date, briefly provide a reason, and suggest a revised due date. Requests that are *received* on the actual due date are not approved.

Course Policies on Missed or Late Academic Requirements

4. The late penalty is 5% for the first day (24 hours) and doubles every day after including weekends.
5. You may submit a maximum of 2 Student Declaration of Absence (SDA) forms per term for short-term absences of 3 days or less.
6. To be applicable, SDA forms must be completed and submitted on Brightspace before the class meeting or deadline that will be missed.
7. SDA forms give you a maximum of 3 additional days to submit assignments. Students that submit an SDA form must submit any missed assignments by 3 days after the original due date. Students will not be reminded of this revised due date and late penalties will apply.
8. The 2 lowest reading quiz grades in each category are dropped each term. There are no make-up quizzes, even with an SDA.
9. Absences longer than 3 days will be handled on a case-by-case basis.

Course Policies related to Academic Integrity

10. You may discuss material and exchange ideas with others, but you must submit individual, original work not generated by AI.
11. Plagiarism detection software may be used to monitor any written work submitted in this course and assist in plagiarism detection.
12. Allegations of plagiarism can be made at any point during the course, including after assignments have been marked and returned.
13. Plagiarized assignments will receive a zero, and students may be referred to a Faculty of Science Academic Integrity Officer for further discipline.

Learning Objectives

After completing this course, you will be able to:

1. Understand purpose, conventions, and challenges associated with different forms of scientific communication.
2. Appreciate the breadth of ocean science and explain core ocean concepts.
3. Read critically and for comprehension.
4. Construct scientific arguments that are supported by primary literature.
5. Describe and demonstrate different types of scientific communication, especially writing.
6. Give and accept constructive criticism, and then use this process to improve.

Course Content

Week	Ocean Core Concepts Reading	Reading Quiz	Ocean Core Concepts Topics	Science Communication Reading	Reading Quiz	Science Communication Topics	Assignment	Due Date	Conversation Series
1 Sep 3-6	NONE	NONE	Course intro	NONE	NONE	Library Skills	Library Skills Worksheets	Sep 19	NONE
2 Sep 9-13	OAVSI pp. 1-14	Online	Ocean science history, ocean zonation, bathymetric features (passive continental margin), Heezen and Tharp 1977 world ocean floor map	WITLS pp. xix-xxiv and pp. 12-25	Online	Audience and Function	NONE		Convo #1
3 Sep 16-20	OAVSI pp. 15-30	Online	Earth layers, isostasy, hypsometry and crust types, plate tectonics	WITLS pp. 25-42 and pp.42-57 (skim)	Online	Science News Writing	Science Blog Post #1	Sep 26	Convo #2
4 Sep 23-27	OAVSI pp. 31-41	Online	Plate tectonics and bathymetry, sedimentation, life cycle of an ocean basin, geohazards	WITLS pp. 1-12	Online	Defining Your Writing Project	Major Project - Paper Proposal	Oct 3	Convo #3
5 Oct 1-4	OAVSI pp. 42-46	Online	Seawater composition, salinity, Law of Constant Proportions	WITLS pp. 106-120	Online	Critical Reading I: Reading for Comprehension	News Brief #1	Oct 10	Convo #4

Week	Ocean Core Concepts Reading	Reading Quiz	Ocean Core Concepts Topics	Science Communication Reading	Reading Quiz	Science Communication Topics	Assignment	Due Date	Conversation Series
6 Oct 7-11	OAVSI pp. 46-50	Online	Processes affecting salinity, sources and sinks, residence time	WITLS pp. 120-129	Online	Critical Reading II: Synthesizing Information	Major Project - Reading List	Oct 17	Convo #5
7 Oct 15-18	OAVSI pp. 50-57	Online	Seawater density and vertical structure	WITLS pp. 129-147	Online	Critical Reading III: Scientific Arguments	News Brief #2	Oct 24	Convo #6
8 Oct 21-25	OAVSI pp. 58-66	Online	Circulation types and driving forces, waves, tides	WITLS pp. 149-171, pp. 379-397 and 437-452	Online	Content Organization and Outline Writing	Major Project - Paper Outline	Nov 7	Convo #7
9 Oct 28-Nov 1	OAVS pp. 77-79	Online	Atmospheric circulation	WITLS pp. 172-210	Online	Writing a Draft	Major Project - Paper 1st Submission "Draft"	Dec 4	Convo #8
10 Nov 4-8	OAVSI pp. 67-70	Online	Descriptive oceanography, Coriolis, Ekman transport	WITLS pp.453-472	Online	Oral Presentations	Major Project - Oral Presentations	Nov 21	Convo #9
Fall Break: Nov 11-15									
11 Nov 18-22	OAVSI pp. 70-74	Online	Thermohaline circulation	NONE	NONE	Live Presentations	NONE		NONE
12 Nov 25-29	NONE	NONE	Live Presentations	NONE	NONE	Live Presentations	NONE		NONE

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)

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/dept/university_secretariat/policies/academic/student-submission-of-assignments-and-use-of-originality-checking-software-policy-.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.