

**Faculty of Science Course Syllabus (Section A)
Department of Oceanography
OCEA 2002
The Blue Planet II
Winter, 2023**

Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq. We are all Treaty people.

We acknowledge the histories, contributions, and legacies of the African Nova Scotian people and communities who have been here for over 400 years.

Instructor(s): Paul Hill paul.hill@dal.ca

Lectures: Wednesday and Friday, 10:30-11:25 AM

Laboratories: None

Tutorials: None

Course delivery: Blended Delivery: all lecture content will be delivered online; class time will be used to answer questions, review quiz content, and to present topics that link course content to current events.

Course Description

This course provides a general survey of biological oceanography. Students learn about marine biology and marine ecosystems. Consideration is also given to human impacts.

Course Prerequisites

OCEA 2001.03

Course Exclusion

OCEA 2000.06, OCEA 2850.06, OCEA 2851.03/OCEA 2852.03

Learning Objectives

The course is divided into 24 modules, and each module has 5 specific Learning Outcomes. These outcomes are listed at the beginning of each module, and a quiz at the end of each module is designed to assess whether the outcome has been attained. Since they are too numerous to list here, a summary for each module is given instead.

At the end of the course, students should be able to do the following:

- Summarize the diversity of the structure and function of marine phytoplankton.
- Recall the structure and function of important macroalgae.
- Recall the structure and function of sea grasses.
- Review the diversity of the structure and function of zooplankton.
- Memorize the major phyla of benthic invertebrates.
- Describe the major classes and important adaptations of marine fish.
- Recall the general types and important adaptations of marine reptiles.

- Recall the general types and important adaptations of sea birds.
- Recall the general types and important adaptations of marine mammals.
- Describe important aspects of the ecology of the rocky intertidal zone.
- Describe important aspects of the ecology of the sandy intertidal zone.
- Describe important aspects of the ecology of the muddy intertidal zone.
- Describe the major types of estuaries and the ecological challenges for organisms living in them.
- Describe important aspects of the ecology of salt marshes.
- Describe important aspects of the ecology of mangrove forests.
- Describe important aspects of the ecology of coral reefs.
- Describe important aspects of the ecology of the open ocean.
- Describe important aspects of the ecology of the deep ocean.
- Review past, present and future approaches to sustainable fisheries management.
- Summarize the potential and problems associated with marine aquaculture.
- Describe some sources of and solutions for marine pollution.
- List options for sustainable coastal development.
- Explain the causes and consequences of anthropogenic climate change.
- Describe some key non-living marine resources and the legal framework governing their ownership.

Course Materials

- The required text for the course is *Oceanography and Marine Biology*, by D. W. Townsend.
 - A digital version of the text will be available for purchase through Brightspace.
 - New or used hard copies of the text may also be used.
 - New hard copies are available for purchase at the Dalhousie Bookstore.
- There are no other required materials.
- Course content will be delivered through Brightspace: [OCEA 2002 - The Blue Planet II \(Sec 01\) - 2023 Winter](#)
- Students will need access to one of the following: laptop computer, tablet computer, smart phone or desktop computer.
- The Course Instructor and TA should be contacted via email.
- If a power or internet outage occurs during an online quiz, then contact the Instructor or the TA as soon as possible to report the problem. The quiz attempt will be reset.
- Top Hat will be used to encourage and evaluate in-class participation.
- Students connecting to online resources from outside Canada are responsible for ensuring awareness and compliance with any applicable laws in the country from which they are connecting.

Course Assessment

Assessment will be through online quizzes delivered through Brightspace and a final. There will be two types of online quizzes:

1. Learning Module quizzes;
2. Chapter Assessments (CHAs).

The Learning Module quizzes appear at the end of each Learning Module. They comprise 5 questions. Each question is designed to assess whether a student has attained one of the 5 Learning Outcomes for that Learning Module. Two attempts are allowed for each Learning Module quiz, and the mark for the quiz is based on the highest score for the two attempts. The Learning Module quizzes become available when

the Module becomes available, at 8:30 AM on either Wednesday or Friday. They are due one week later, by 5 PM. Students have 2 hours to complete each assessment, which is ample time for all learners. The lowest Module quiz score is dropped. Overall, the top 23 Learning Module quizzes account for 50% of the overall mark, so each one is worth just under 2.2%.

The Chapter Assessments (CHAs) are based directly on the text. Each CHA is based on a chapter in the text. Chapter 12 has two assessments associated with it. The purpose of these assessments is to promote engagement of the students with the text, which offers a fuller treatment of the material than is possible in each module's video units. They comprise 10 questions each. Only one attempt is allowed per CHA. CHAs become available on Fridays, and they are due by 5 PM on the Friday of the following week. The exceptions are the CHA 12a and 12b, when the due date is moved to the week after. Students have 2 hours to complete each assessment, which is ample time for all learners. The lowest CHA mark will be dropped. Overall, the top 8 CHAs account for 20% of the overall mark, so each one is worth 2.5%.

There are no other assignments.

The final exam will be written, in person, during exam period, with the date and time arranged by the Registrar. The exam will be short-answer format. It will account for 30% of the overall mark.

| Assessment | Due Date | Weight (%) | Total (%) |
|---|----------|------------|-----------|
| Module Assessments: 50% of mark | | | |
| Phytoplankton Module Quiz | 18.01.23 | 2.2 | 50 |
| Macroalgae Module Quiz | 20.01.23 | 2.2 | |
| Sea Grasses Module Quiz | 25.01.23 | 2.2 | |
| Zooplankton Module Quiz | 27.01.23 | 2.2 | |
| Marine Invertebrates Module Quiz | 01.02.23 | 2.2 | |
| Marine Fishes Module Quiz | 03.02.23 | 2.2 | |
| Marine Reptiles Module Quiz | 08.02.23 | 2.2 | |
| Sea Birds Module Quiz | 15.02.23 | 2.2 | |
| Marine Mammals Module Quiz | 17.02.23 | 2.2 | |
| Rocky Intertidal Ecosystems Module Quiz | 01.03.23 | 2.2 | |
| Sandy Intertidal Ecosystems Module Quiz | 03.03.23 | 2.2 | |
| Muddy Intertidal Ecosystems Module Quiz | 08.03.23 | 2.2 | |
| Estuaries Module Quiz | 10.03.23 | 2.2 | |
| Salt Marshes Module Quiz | 15.03.23 | 2.2 | |
| Mangrove Forests Module Quiz | 17.03.23 | 2.2 | |
| Coral Reefs Module Quiz | 22.03.23 | 2.2 | |
| Open Ocean Module Quiz | 24.03.23 | 2.2 | |

| | | | |
|---|-------------|------|----|
| Deep Ocean Module Quiz | 29.03.23 | 2.2 | |
| Fisheries Module Quiz | 31.03.23 | 2.2 | |
| Aquaculture Module Quiz | 05.04.23 | 2.2 | |
| Marine Pollution Module Quiz | 07.04.23 | 2.2 | |
| Coastal Development Module Quiz | 12.04.23 | 2.2 | |
| Climate Change Module Quiz | 17.04.23 | 2.2 | |
| Non-Living Marine Resources Module Quiz | 18.04.23 | 2.2 | |
| Chapter Assessments: 20% of mark | | | |
| Ch. 8, The Primary Producers | 20.01.23 | 2.5 | 20 |
| Ch. 9, The Zooplankton | 27.01.23 | 2.5 | |
| Ch. 10, Marine Invertebrates | 03.02.23 | 2.5 | |
| Ch. 11, Marine Fishes | 10.02.23 | 2.5 | |
| Ch. 13, Reptiles Birds Mammals | 17.02.23 | 2.5 | |
| Ch. 12a, Marine Environments I | 10.03.23 | 2.5 | |
| Ch. 12b, Marine Environments II | 24.03.23 | 2.5 | |
| Ch. 14, Fisheries & Aquaculture | 31.03.23 | 2.5 | |
| Ch. 15, Human Impacts | 14.04.23 | 2.5 | |
| Final Exam: 30% of mark | | | |
| Final Exam | Exam period | 30.0 | 30 |

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

Marks will be rounded. For example, a mark of 79.5 will be rounded up to 80, and a mark of 79.4 will be rounded to 79. No extra points are available, and marks will not be “bumped” to the next higher letter mark.

| | | | | |
|-------------|------------|------------|---|---------|
| 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

Course assessments, apart from the Final Exam, are asynchronous. Module quizzes are available for 7 days, and Chapter Assessments are available for a minimum of 7 days. As a result, students with circumstances that keep them away from school for 3 days or less will still have time to complete their assessments. Students will not be able to make up any missed work. The lowest mark in each assessment category will be dropped.

Students with longer absences should coordinate with the Instructor and the Assistant Dean of Student Affairs Patricia Laws to make a plan for completing academic requirements.

Course Policies related to Academic Integrity

Students must complete all assessments by themselves.

Course Content

| Module | Availability Date |
|-----------------------------|--------------------------|
| The Phytoplankton | January 11 |
| Macroalgae | January 13 |
| Sea Grasses | January 18 |
| Zooplankton | January 20 |
| Marine Invertebrates | January 25 |
| Marine Fishes | January 27 |
| Marine Reptiles | February 1 |
| Sea Birds | February 8 |
| Marine Mammals | February 10 |
| Rocky Intertidal Ecosystems | February 15 |
| Sandy Intertidal Ecosystems | February 17 |
| Muddy Intertidal Ecosystems | March 1 |
| Estuaries | March 3 |
| Salt Marshes | March 8 |
| Mangrove Forests | March 10 |
| Coral Reefs | March 15 |
| The Open Ocean | March 17 |
| The Deep Ocean | March 22 |
| Fisheries | March 24 |
| Aquaculture | March 29 |
| Marine Pollution | March 31 |
| Coastal Development | April 5 |
| Climate Change | April 10 |
| Non-Living Marine Resources | April 11 |

Faculty of Science Course Syllabus (Section B)**OCEA 2002****The Blue Planet II****Winter, 2023****University Policies and Statements**

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

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

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

<https://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=117&chapterid=-1&topicgroupid=31821&loaduserredits=False>

University Grading Practices

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

Faculty of Science Course Syllabus (Section C)**OCEA 2002****The Blue Planet II****Winter, 2023****Student Resources and Support****Advising****General Advising** https://www.dal.ca/campus_life/academic-support/advising.html**Science Program Advisors:** <https://www.dal.ca/faculty/science/current-students/undergrad-students/degree-planning.html>**Indigenous Student Centre:** https://www.dal.ca/campus_life/communities/indigenous.html**Black Students Advising Centre:** https://www.dal.ca/campus_life/communities/black-student-advising.html**International Centre:** https://www.dal.ca/campus_life/international-centre/current-students.html**Academic supports****Library:** <https://libraries.dal.ca/>**Writing Centre:** https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html**Studying for Success:** https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html**Copyright Office:** <https://libraries.dal.ca/services/copyright-office.html>**Fair Dealing Guidelines** <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>**Other supports and services****Student Health & Wellness Centre:** https://www.dal.ca/campus_life/health-and-wellness.html**Student Advocacy:** <https://dsu.ca/dsas>**Ombudsperson:** https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html**Safety****Biosafety:** <https://www.dal.ca/dept/safety/programs-services/biosafety.html>**Chemical Safety:** <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>**Radiation Safety:** <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>**Scent-Free Program:** <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>**Dalhousie COVID-19 information and updates:** <https://www.dal.ca/covid-19-information-and-updates.html>