

Faculty of Science Course Syllabus Department of Oceanography

Biological Oceanography OCEA 4140/5140, BIOL 4661/5661, MARI 4661 Winter 2016

Instructor: Chris Algar chris.algar@dal.ca LSC Oceanography: #3617

Lectures: Monday-Wednesday: 10:35-11:55 LSC Oceanography #3655

Office hours: Tuesday and Thursday by appointment. Email contact is preferred.

Course Description

The goal is to describe how physical, chemical and biological processes interact to determine the species composition, biogeochemical activities, and trophic structure of marine communities. Outstanding problems currently facing biological oceanographers and earth systems scientists are discussed, as are current attempts and methodologies to address them.

Course Prerequisites

OCEA 2000.06 (OCEA 2001.03/2002.03); OCEA 2020.03; OCEA 2021.03; or permission of instructor

Course Objectives/Learning Outcomes

Students will understand the structure of marine ecosystems, the flow of matter and energy through them, and their interaction with physical and chemical processes.

Course Materials

- Recommended text: Millar, C. and Wheeler, P.A. Biological Oceanography 2nd Edition

Course Assessment

Assignment #1 due: Feb. 10Th, 2015. Assignment #2 due: March 30th, 2015.

Midterm: Feb. 24Th, 2015

Component Weight (% of final grade) Date

Midterm examination (25%)

Final exam (40%) (Scheduled by Registrar)

Assignments -Two problem sets (15% each)

Class participation (5%)

Other course requirements



Different expectations are placed upon graduate and undergraduate students. Graduate students will be required to answer additional questions on midterms, exams, and assignments. These will be clearly indicated. Undergraduates may answer these additional questions for extra credit.

Two field trips to Bedford Basin are tentatively planned for Feb. 3rd and March 25th, weather permitting. The field trips will begin approximate 8:30 am and likely last until early afternoon. Details will be organized in class. Anyone with a scheduling conflict is asked to speak to the instructor.

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

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

Course Policies

Assignments will be due at the start of class on the day they are due. They may be submitted in class or by email. All files used to solve problems (spreadsheets, computer code, etc.) are to be submitted. Late assignments will not be accepted.

Course Content

This schedule outlines the material that will be presented in this course. This is not a strict schedule and may be subject to change. Emphasis is placed on understanding underlying oceanographic principles, rather covering all topics or adhering to a ridge schedule.

Unit 1: Fundamentals

Unit 2: Origin and characteristics of ocean life

Unit 3: Survey of marine phytoplankton

Unit 4: Light

Unit 5: Phytoplankton growth and primary production

Unit 6: Zooplankton

Unit 7: Marine microbes

Unit 8: NPZ modelling

Unit 9: Marine biomes

Unit 10: Carbon fluxes

Unit 11: Benthic processes

Unit 12: Fisheries

Unit 13: Global biogeochemical cycles

Unit 14: Human Impacts

Review

Cancellation of lectures: If a lecture has to be cancelled for reasons other than campus closure, you will be informed by email no later than 9 am on the day of the lecture.

ACCOMMODATION POLICY FOR STUDENTS



Students may request accommodation as a result of barriers related to disability, religious obligation, or any characteristic protected under Canadian Human Rights legislation. The full text of Dalhousie's Student Accommodation Policy can be accessed here:

http://www.dal.ca/dept/university_secretariat/policies/academic/student-accommodation-policy-wef-sep--1--2014.html

Students who require accommodation for classroom participation or the writing of tests and exams should make their request to the **Advising and Access Services Centre (AASC)** prior to or at the outset of the regular academic year. More information and the **Request for Accommodation** form are available at www.dal.ca/access.

ACADEMIC INTEGRITY

Academic integrity, with its embodied values, is seen as a foundation of Dalhousie University. It is the responsibility of all students to be familiar with behaviours and practices associated with academic integrity. Instructors are required to forward any suspected cases of plagiarism or other forms of academic cheating to the Academic Integrity Officer for their Faculty.

The Academic Integrity website (http://academicintegrity.dal.ca) provides students and faculty with information on plagiarism and other forms of academic dishonesty, and has resources to help students succeed honestly. The full text of Dalhousie's *Policy on Intellectual Honesty* and *Faculty Discipline**Procedures* is available here:

http://www.dal.ca/dept/university_secretariat/academic-integrity/academic-policies.html

STUDENT CODE OF CONDUCT

Dalhousie University has a student code of conduct, and it is expected that students will adhere to the code during their participation in lectures and other activities associated with this course. In general:

"The University treats students as adults free to organize their own personal lives, behaviour and associations subject only to the law, and to University regulations that are necessary to protect

- the integrity and proper functioning of the academic and non academic programs and activities of the University or its faculties, schools or departments;
- the peaceful and safe enjoyment of University facilities by other members of the University and the public;
- the freedom of members of the University to participate reasonably in the programs of the University and in activities on the University's premises;
- the property of the University or its members."

The full text of the code can be found here:

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

COPYRIGHT

All members of the Dalhousie community are expected to comply with their obligations under Canadian copyright law. Dalhousie copyright policies and guidelines, including our Fair Dealing Guidelines, are



available at http://www.dal.ca/dept/copyrightoffice.html. Copyright questions should be directed to the Copyright Office at copyright.office@dal.ca.



SERVICES AVAILABLE TO STUDENTS

The following campus services are available to help students develop skills in library research, scientific writing, and effective study habits. The services are available to all Dalhousie students and, unless noted otherwise, are <u>free</u>.

Service	Support Provided	Location	Contact
General	Help with	Killam Library	In person: Killam Library Rm G28
Academic Advising	- understanding degree requirements and academic regulations - choosing your major - achieving your educational or career goals - dealing with academic or	Ground floor Rm G28 Bissett Centre for Academic Success	By appointment: - e-mail: advising@dal.ca - Phone: (902) 494-3077 - Book online through MyDal
Dalhousie Libraries	other difficulties Help to find books and articles for assignments Help with citing sources in	Killam Library Ground floor	In person: Service Point (Ground floor)
	the text of your paper and preparation of bibliography	Librarian offices	By appointment: Identify your subject librarian (URL below) and contact by email or phone to arrange a time:
			http://dal.beta.libguides.com/sb.php?subject_id=34328
Studying for Success (SFS) Help to develop essential study skills through small group workshops or one- on-one coaching sessions Match to a tutor for help in	3 rd floor Coordinator Rm 3104	To make an appointment: - Visit main office (Killam Library main floor, Rm G28) - Call (902) 494-3077 - email Coordinator at: sfs@dal.ca or - Simply drop in to see us during posted office hours	
	course-specific content (for a reasonable fee)	Study Coaches Rm 3103	All information can be found on our website: www.dal.ca/sfs
Writing Centre	Meet with coach/tutor to discuss writing assignments (e.g., lab report, research paper, thesis, poster) - Learn to integrate source material into your own work appropriately - Learn about disciplinary writing from a peer or staff	Killam Library Ground floor Learning Commons & Rm G25	To make an appointment: - Visit the Centre (Rm G25) and book an appointment - Call (902) 494-1963 - email writingcentre@dal.ca - Book online through MyDal We are open six days a week See our website: writingcentre.dal.ca
	member in your field		-