

OCEANOGRAPHY FINAL COURSE OUTLINE: WINTER 2021

GEOGRAPHY 504 GFC HOURS (3-2)

Oceanography

Section	Location	Meeting Time	Meeting Day
LEC 01	Web Based Course	N/A	None – all asynchronous
LAB 01	Web Based Course	N/A	None – all asynchronous

Instructor: John Yackel	Office: ES 444
	Email: yackel@ucalgary.ca
Teaching Assistant: Zoe Walker	Email: zoe.walker@ucalgary.ca

Official Course Description

Physical ocean processes including circulation, waves, and tides are examined as part of the Earth's hydrosphere and climate system. These physical processes are then linked to controls on primary production in the ocean, and marine foodwebs/ecosystems. Chemical processes driven by circulation and biology are examined, with a focus on marine feedbacks related to past and present climate change.

Course Objectives

The objectives of this course are to 1) introduce the student to the physical, chemical, and biological processes operating within our world's oceans; 2) investigate these processes using lab-based approaches and 3) introduce the key process linkages between the physical, chemical, and biological oceanographic properties/characteristics **and** climate change and variability at multiple spatio-temporal scales. Interactions between human activities and ocean processes will be discussed. This course has special focus on Arctic oceanography.

Course Learning Outcomes

The Department of Geography is committed to student knowledge and skill development. The table below lists the key learning outcomes for this course, the program-learning outcomes to which they contribute, and the expected level of achievement.

Course Learning Outcomes	PLO(s)*	Level(s)**
Students in this course will learn to understand basic ocean circulation, and how it is controlled by air-sea interactions and the underlying properties of seawater.	4	2
Students in this course will learn to analyze how ocean circulation impacts on climate over various spatial and temporal scales.	4	2
Students in this course will learn to critically analyze and respond to reports (particularly non-scientific) about climate change, climate variability, and our oceans.	7	3
Students in this course will learn to identify reliable sources of scientific information, and construct knowledge from primary sources.	7	2
Students in this course will learn to effectively communicate scientific ideas using sound technical writing techniques.	8	2

**PLOs = Program Learning Outcomes: 1 = reflect and communicate diverse human-environment perspectives, 2 = identify and explain human-environment processes, 3 = implement sampling, data collection, analyses and communication methods, 4 = analyze spatial and temporal aspects of human-environment systems, 5 = employ knowledge, arguments, and methodologies for solving human-environment problems, 6 = evaluate geospatial data and manipulate it to create cartographic products, 7 = communicate geographic concepts using oral, written, graphic, and cartographic modes, and 8 = demonstrate literacy skills.*

***Levels: 1 = Introductory, 2 = Intermediate, and 3 = Advanced.*

Prerequisites

3 units for Geography 305, Geography 408

Some basic computer skills are required

Learning Resources

Required Textbook: Oceanography: An Invitation to Marine Science, 9th edition. Tom Garrison, Nelson Education, ISBN 9781305480575. Additional readings will be made available through D2L.

Learning Technologies and Requirements

To successfully engage in their learning experiences at the University of Calgary, students taking online, remote, and blended courses are required to have reliable access to the following technology.

- A computer with a supported operating system, as well as the latest security and malware updates
- A current and updated web browser
- Webcam (built in or external)
- Microphone and speaker (built-in or external) or headset with microphone
- Broadband internet connection

Grading (Weighting) and Grade Assignment Conditions

There is no Registrar Scheduled Final Exam.

The lab component must be passed to pass the course. Late lab and term paper assignments will be penalized 20% per day. All lab related questions, including extensions for lab assignments due to unforeseen circumstances should be directed to our TA (Zoe Walker). Lecture, test, and term paper related questions should be directed to the instructor (Dr. Yackel). Tests are open book (in other words you may use all resources at your disposal). The two term tests will be administered via Quizzes in D2L. The time allocation will be 150% of what I would provide in a normal in-person classroom setting. There will be a 24-hour window (beginning 24-hours prior to the scheduled conclusion of the test) to write the test. The term paper is due on or before April 23rd @ 4:30pm via email to yackel@ucalgary.ca as a PDF

- Lab Assignments: 30% (3 assignments @ 10% each)
- Term Paper: 30% (*due on or before April 23rd @ 4:30pm via email to yackel@ucalgary.ca*)
- Tests: 40% (2 tests @ 20% each)

Test #1 starts at midnight on Monday, February 22nd and goes for 24-hours (closes at 11:59pm on Monday, February 22nd).

Test #2 starts at midnight on Thursday, April 15th and goes for 24-hours (closes at 11:59pm on Thursday, April 15th).

Grading System

96 – 100	A+	77 – 80	B	59 – 61	C-
90 – 95	A	71 – 76	B-	55 – 58	D+
86 – 89	A-	65 – 70	C+	50 – 54	D
81 – 85	B+	62 – 64	C	0 – 49	F

For additional detailed course information posted by the instructor, visit the course Desire2Learn page online at <https://d2l.ucalgary.ca/d2l/home>.

SUPPLEMENTAL INFORMATION

Principles of Conduct

The University Calendar includes a statement on the principles of conduct expected of all members of the university community (including students, faculty, administrators, any category of staff, practicum supervisors, and volunteers), whether on or off university property. This statement applies in all situations where members of the university community are acting in their university capacities. All members of the university community have a responsibility to familiarize themselves with the principles of conduct statement, which is available at: www.ucalgary.ca/pubs/calendar/current/k.html.

Plagiarism, Cheating, and Student Misconduct

The University of Calgary is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect.

Academic dishonesty is not an acceptable activity at the University of Calgary, and students are **strongly advised** to read the Student Misconduct section in the University Calendar at: www.ucalgary.ca/pubs/calendar/current/k-3.html. Often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are (1) presenting another student's work as your own, (2) presenting an author's work or ideas as your own without adequate citation, and (3) using work completed for another course. Such activities will not be tolerated in this course, and students suspected of academic misconduct will be dealt with according to the procedures outlined in the calendar at: <https://ucalgary.ca/policies/files/policies/student-academic-misconduct-procedure.pdf>

Instructor Intellectual Property

Information on Instructor Intellectual Property can be found at <https://www.ucalgary.ca/policies/files/policies/Intellectual%20Property%20Policy.pdf>

Freedom of Information and Protection of Privacy

Freedom of Information and Protection of Privacy (FOIP) legislation in Alberta disallows the practice of having students retrieve assignments from a public place, such as outside an instructor's office, the department office, etc. Term assignments will be returned to students individually, during class or during the instructor's office hours; if students are unable to pick up their assignments from the instructor, they must provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment.

Guidelines for Zoom Sessions

Zoom is a video conferencing program that will allow us to meet at specific times for a "live" video conference, so that we can have the opportunity to meet each other virtually and discuss relevant course topics as a learning community.

To help ensure Zoom sessions are private, do not share Zoom link or password with others, or on any

social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

The use of video conferencing programs relies on participants to act ethically, honestly and with integrity; and in accordance with the principles of fairness, good faith and respect (as per the [Code of Conduct](#)). When entering Zoom or other video conferencing sessions (such as MS Teams), you play a role in helping create an effective, safe and respectful learning environment. Please be mindful of how your behavior in these sessions may affect others. Participants are required to use names officially associated with their UCID (legal or preferred names listed in the Student Centre) when engaging in these activities. Instructors/moderators can remove those whose names do not appear on class rosters. Non-compliance may be investigated under relevant University of Calgary conduct policies (e.g. Student Non Academic Misconduct Policy). If participants have difficulties complying with this requirement, they should email the instructor of the class explaining why, so the instructor may consider whether to grant an exception, and on what terms. For more information on how to get the most out of your Zoom sessions visit: <https://elearn.ucalgary.ca/guidelines-for-zoom/>.

If you are unable to attend a Zoom session, please contact your instructor to arrange an alternative activity for the missed session (e.g., to review a recorded session). Please be prepared, as best as you are able, to join class in a quiet space that will allow you to be fully present and engaged in Zoom sessions. Students will be advised by their instructor when they are expected to turn on their webcam (for group work, presentations, etc.).

The instructor may record online Zoom class sessions for the purposes of supporting student learning in this class – such as making the recording available for review of the session or for students who miss a session. Students will be advised before the instructor initiates a recording of a Zoom session. These recordings will be used to support student learning only and will not be shared or used for any other purpose.

Posting of Grades and Picking-up of Assignments

Graded assignments will be made available electronically through the course D2L webpage. Grades and assignments will not be available at the Department of Geography main office.

Academic Accommodations

It is the student's responsibility to request academic accommodations, according to the university policies and procedures listed in the University Calendar.

The student accommodation policy can be found at:

https://www.ucalgary.ca/policies/files/policies/student-accommodation-policy_0.pdf

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf.

Students needing an accommodation based on a protected ground other than disability should communicate this need, preferably in writing to their instructor or the Department Head (email: david.goldblum@ucalgary.ca).

Copyright Legislation

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright <https://www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright-policy.pdf> and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to

ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Act.

Wellness and Mental Health Resources

The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness, and academic success and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support, or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, <https://www.ucalgary.ca/wellnesscentre/services/mental-health-services>) and the Campus Mental Health Strategy website (<http://www.ucalgary.ca/mentalhealth/>).

Contact Information for Student and Faculty Representation

- Student Union VP Academic 403-220-3911, suypaca@ucalgary.ca
- Students Union Representatives for the Faculty of Arts – 403-220-3913, arts1@su.ucalgary.ca, arts2@su.ucalgary.ca, arts3@su.ucalgary.ca, arts4@su.ucalgary.ca
- Student Ombuds Office information can be found at: www.ucalgary.ca/ombuds/

Campus Safewalk

Campus Security, in partnership with the Students' Union, provides the Safewalk service, 24 hours a day, to any location on Campus, including the LRT station, parking lots, bus zones, and university residences. Contact Campus Security at 220-5333 or use a help phone, and Safewalkers or a Campus Security officer will accompany you to your campus destination.