

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note:** The University reserves the right to amend course outlines as needed without notice.

<b>Course Code and Number:</b> GEOG 304		<b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>													
<b>Course Full Title:</b> Coasts and Climate Change															
<b>Course Short Title:</b>															
<b>Faculty:</b> Faculty of Science		<b>Department:</b> School of Land Use and Environmental Change													
<b>Calendar Description:</b> <p>The coastal zone represents one of the most dynamic and complex environments on the earth's surface. This course will investigate the complex interactions between people, coastal processes, and landform zones in times of environmental change and sea-level rise.</p> <p>Note: Field trips outside of regular class times may be required. Please refer to the department website for scheduling information.</p>															
<b>Prerequisites (or NONE):</b>		One of the following: GEOG 201, GEOG 202, or GEOG 219/BIO 219.													
<b>Corequisites (if applicable, or NONE):</b>		NONE													
<b>Pre/corequisites (if applicable, or NONE):</b>		NONE													
<b>Antirequisite Courses</b> <i>(Cannot be taken for additional credit.)</i> Former course code/number: Cross-listed with: Equivalent course(s): <i>(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)</i>		<b>Course Details</b> Special Topics course: <b>No</b> <i>(If yes, the course will be offered under different letter designations representing different topics.)</i> Directed Study course: <b>No</b> <i>(See <a href="#">policy 207</a> for more information.)</i> Grading System: <b>Letter grades</b> Delivery Mode: <b>May be offered in multiple delivery modes</b> Expected frequency: <b>Every other year</b> Maximum enrolment (for information only): <b>28</b>													
<b>Typical Structure of Instructional Hours</b> <table border="1"> <tr> <td>Lecture/seminar</td> <td>30</td> </tr> <tr> <td>Experiential (cultural/elder learning or participation)</td> <td>20</td> </tr> <tr> <td>Tutorials/workshops</td> <td>15</td> </tr> <tr> <td>Experiential (field trip)</td> <td>25</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td><b>Total hours</b></td> <td><b>90</b></td> </tr> </table>		Lecture/seminar	30	Experiential (cultural/elder learning or participation)	20	Tutorials/workshops	15	Experiential (field trip)	25			<b>Total hours</b>	<b>90</b>	<b>Prior Learning Assessment and Recognition (PLAR)</b> PLAR is available for this course.	
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<b>Scheduled Laboratory Hours</b> Labs to be scheduled independent of lecture hours: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		<b>Transfer Credit</b> <i>(See <a href="#">bctransferguide.ca</a>.)</i> Transfer credit already exists: <b>No</b> Submit outline for (re)articulation: <b>Yes</b> <i>(If yes, fill in <a href="#">transfer credit form</a>.)</i>													
<b>Department approval</b>		<b>Date approved:</b> November 2021													
<b>Faculty Council approval</b>		<b>Date approved:</b> December 3, 2021													
<b>Undergraduate Education Committee (UEC) approval</b>		<b>Date of meeting:</b> January 28, 2022													

**Learning Outcomes** *(These should contribute to students' ability to meet program outcomes and thus Institutional Learning Outcomes.)*

Upon successful completion of this course, students will be able to:

1. Articulate the physical processes operating in the coastal environment.
2. Assess climate change threats facing a coastal community and design strategies to mitigate these problems.
3. Discuss indigenous perspectives of the coastal landscape.
4. Evaluate the roles of various stakeholders in a specific environment and discuss key management concerns.
5. Apply the appropriate geographic skills and techniques (field methods, data analysis, ethics, mapping, GIS, survey design etc.) to solve climate change problems facing a coastal region.
6. Critically reflect upon individual learning from group interactions, in-class discussions, field work, and related research.

**Recommended Evaluation Methods and Weighting** *(Evaluation should align to learning outcomes.)*

Assignments:	80%	Field evaluation:	10%	Participation	10%
	%		%		%

**Details:**

As a course built on problem-based learning, assignments will be the dominant form of evaluation and will include a scientific report (40%), educational video (20%) and handout (10%), and reflective journal (10%).

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Texts and Resource Materials** *(Include online resources and Indigenous knowledge sources. [Open Educational Resources](#) (OER) should be included whenever possible. If more space is required, use the [Supplemental Texts and Resource Materials form](#).)*

Type	Author or description	Title and publication/access details	Year
1. Textbook	Alexander et. al.	Bridging Indigenous and science-based knowledge in coastal and marine research, monitoring, and management in Canada	2019
2. Textbook	Alexander, K., Ryan, A. & Measham, T.	Managed retreat of coastal communities: understanding responses to sea level rise	2012
3. Textbook	Government of British Columbia	Guidelines for Management of Coastal Flood Hazard Use	2011
4. Textbook	Government of British Columbia	Sea level rise adaptation primer	2013
5. Textbook	IPCC	Sixth Assessment Report, Climate Change 2021: The Physical Science Basis	2021

**Required Additional Supplies and Materials** *(Software, hardware, tools, specialized clothing, etc.)*

There may be a fee for field trip costs for this course.

**Course Content and Topics**

This course will be offered using a modified problem-based learning strategy and as such much of the learning and content of the course will be largely determined by the students. Students will be introduced to a real-world problem at the beginning of the course and will then be responsible for determining the strategies and content required to meet the course learning outcomes while answering the posed question. Real world problems will investigate coastal issues in the local area and will be supported by field work. Short mini lessons on key topics may be given by the instructor to guide the students' learning at the request of the students with the remainder of the content resulting from student investigation of the topic. The instructor will facilitate the learning environment and provide key direction, mini lessons, and background information. The content covered will be based on student investigation and a weekly breakdown is not possible (due to the PBL delivery mode). Topics likely to be covered include:

- Coastal processes (waves, currents, tides)
- Coastal landforms
- Sediment transport
- Climate change predictions
- Human impact on the coast
- Coastal management
- Field survey methods
- Ethics and social science survey design
- Data analysis