

*"We must plant the sea and herd its animals using the sea as farmers instead of hunters. That is what civilization is all about - farming replacing hunting."*

-Jacques Cousteau

## **Aquaculture in British Columbia**

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### **Dr. Mark Flaherty**

**Office Hours:** Turpin B352 Monday 1:30-3:30 PM. Thursday 11:00 AM - Noon

**Contact:** 250-721-7337      email: [msf@uvic.ca](mailto:msf@uvic.ca)

**Lectures:** Mondays, 14:30 - 17:30    **Classroom:** Clearihue C111

Lectures will be Face-to-Face. Some guest lectures will be via ZOOM.

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We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

### **COURSE DESCRIPTION**

British Columbia's coastline stretches for 25,725 km. Aquaculture is an integral part of BC's economy and that of many coastal communities. BC is Canada's largest producer of farmed seafood, providing over half of Canada's output. This course examines the current state and opportunities for the future development of BC's aquaculture industry – finfish, shellfish and kelps. Students will be introduced to production methods, environmental issues, technological innovations, First Nations involvement, and the regulatory framework for this important agri-food industry.

## LEARNING OUTCOMES

By the end of this course, students will be able to:

- understand how cultured seafood is produced in BC and the opportunities for further diversification,
- discuss the advantages and disadvantages of different aquaculture production systems, and to,
- critically evaluate the major controversies currently associated with aquaculture development in BC.

## LECTURES

The lecture topics listed below will be covered during the semester. Guest speakers from industry and government agencies will give you a broad perspective on many of the issues related to aquaculture in BC. The lecture sequence will likely differ from that indicated below to accommodate the schedules of the guest speakers. That will also change the sequence for the research papers but not the due dates.

January	5	Course Introduction – A Global Perspective on Aquaculture
	12	Overview of shellfish Aquaculture
	19	Dr. Tim Green (VIU) – Shellfish and Climate Change
	26	Allie Bryne (NIC) – Geoduck Aqua
Feb	2	
	9	Dr. Myron Roth – Land- based fish farming: Theory and Practice
	16	<b>READING BREAK</b>
	23	Michelle Franze – BC Salmon Farmers Association
March	2	Dr. Jenny Weitzman - - Aquaculture Coastal Classification System in Nova Scotia
	9	Matt Obee – Cascadia Seaweeds
	16	
	23	
	30	Dr. Steven Cross – Sustainable Ecological Aquaculture

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## REQUIRED TEXT BOOK

Because of the broad, interdisciplinary nature of this course no textbook is required.

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## REQUIRED READINGS

Course readings will be available on Brightspace.

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## EVALUATION

**FOUR** research papers. Each paper 3,500 – 4,000 words plus references. **Each is worth 20 percent.** The topics are:

1. The global farmed salmon market size, valued at USD 21.2 Billion in 2026, is expected to climb to USD 37.1 Billion by 2035. Will BC participate in this growth? Discuss the key *environmental challenges* that need to be addressed, and the steps that the industry is taking to overcome them. Is the industry on track to creating a sustainable industry? Why or why not
2. First Nations in BC are divided when it comes to salmon farming. Some want the farms in their traditional territories, others wish to exclude them. Is a *one size fits all* policy needed or desirable in BC? Why or why not?
3. There is a lot of hype surrounding seaweed farming. Can it live up to these expectations? What are the challenges and opportunities for the sector in BC?
4. What are the challenges and opportunities facing the shellfish aquaculture sector in BC?

### Class Discussion Group Participation 10 %

Some lectures will have “*Question of the Day*” posed. Groups will discuss and write a short summary statement for presentation to the class and submission to me.

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### GRADING SYSTEM

As per the Academic Calendar:

Grade	Grade point value	Grade scale	Description
A+	9	90-100%	<b>Exceptional, outstanding and excellent</b> performance. Normally achieved by a minority of students. These grades indicate a student who is self-initiating, exceeds expectation and has an insightful grasp of the subject matter.
A	8	85-89%	
A-	7	80-84%	
B+	6	77-79%	<b>Very good, good and solid</b> performance. Normally achieved by the largest number of students. These grades indicate a good grasp of the subject matter or excellent grasp in one area balanced with satisfactory grasp in the other area.
B	5	73-76%	
B-	4	70-72%	

C+	3	65-69%	<b>Satisfactory</b> , or <b>minimally satisfactory</b> . These grades indicate a satisfactory performance and knowledge of the subject matter.
C	2	60-64%	
D	1	50-59%	<b>Marginal</b> Performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.
F	0	0-49%	<b>Unsatisfactory</b> performance. Wrote final examination and completed course requirements; no supplemental.
N	0	0-49%	Did not write examination or complete course requirements by the end of term or session; no supplemental.

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## GEOGRAPHY DEPARTMENT INFO

- Geography Department website: <http://geog.uvic.ca>
- Undergraduate Advisor: [geogadvisor@uvic.ca](mailto:geogadvisor@uvic.ca)

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## POLICY ON LATE ASSIGNMENTS

Only the course instructor can grant exceptions.

## ACADEMIC INTEGRITY

It is every student's responsibility to be aware of the university's policies on academic integrity, including policies on **cheating**, **plagiarism**, **unauthorized use of an editor**, **multiple submission**, and **aiding others to cheat**.

### Policy on Academic Integrity:

<http://web.uvic.ca/calendar/undergrad/info/regulations/academic-integrity.html>

If you have any questions or doubts, talk to me, your course instructor. For more information, see <http://www.uvic.ca/learningandteaching/students/resources/expectations/>.

## ACCESSIBILITY

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a documented disability or health consideration that may require accommodations, please feel free to approach me and/or the Resource Centre for Students with a Disability (RCSD <http://rcsd.uvic.ca/>) as soon as possible. The RCSD staff is available by appointment to assess specific needs, provide referrals, and arrange appropriate accommodations. The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

## POSITIVITY AND SAFETY

The University of Victoria is committed to promoting, providing and protecting a positive and

safe learning and working environment for all its members.

## **SEXUALIZED VIOLENCE PREVENTION AND RESPONSE AT UVIC**

UVic takes sexualized violence seriously and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting [uvic.ca/svp](http://uvic.ca/svp). If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

Where: Sexualized violence resource office in EQHR; Sedgewick C119

Phone: 250.721.8021

Email: [svpcoordinator@uvic.ca](mailto:svpcoordinator@uvic.ca)

Web: [uvic.ca/svp](http://uvic.ca/svp)

## **COURSE EXPERIENCE SURVEY (CES)**

AT the end of term you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). This survey provides important feedback to me regarding the course and my teaching. The survey is accessed via MyPage and can be done on your laptop, tablet, or mobile device.

### **NOTE:**

A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone.

Counselling Services - *Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.* [uvic.ca/services/counselling/](http://uvic.ca/services/counselling/)

Health Services - *University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives.* [uvic.ca/services/health/](http://uvic.ca/services/health/)

Centre for Accessible Learning - *The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations* [uvic.ca/services/cal/](http://uvic.ca/services/cal/). *The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.*

Elders' Voices - *The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.*

[uvic.ca/services/indigenous/students/programming/elders/index.php](http://uvic.ca/services/indigenous/students/programming/elders/index.php)