



"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

Dr. Mark Flaherty

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

Contact: 250-721-7337 email: 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.

We acknowledge and respect the ɫəkʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ 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 future development of BC's aquaculture industry. Students will be introduced to the industry's history, the species cultured, production methods, technological innovations, environmental issues, First Nations involvement, and the regulatory framework for this important agri-food industry. The lectures will be structured to encourage discussion to facilitate an objective evaluation of the risks of this approach to seafood production in the context of global seafood demand.

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 in order to accommodate the schedules of the guest speakers.

January	8	Course Introduction – A Global Perspective on Aquaculture
	15	Shellfish and Finfish Aquaculture in BC
	22	Salmon Farming in BC: Industry Perspective Guest Speaker: Michelle Franze, Manager of Communications, Partnerships and Community, BC Salmon Farmers Association. Zoom presentation.
	29	Land Based Salmon Farming and the Federal Transition Plan. Guest Speaker: Dr Myron Roth, formerly Team Lead Aquaculture and Marine Fisheries, BC Ministry of Agriculture and Food. Currently with the Climate Action Secretariat. In person.
Feb	5	
	12	FIELD TRIP – Wei Wai Kum First Nation, Campbell River
	19	READING BREAK
	26	
March	4	Climate Change and Shellfish Guest Speaker: Dr. Tim Green, Canada Research Chair in Shellfish Health and Genomics, VIU
	11	Seaweed Farming in BC Guest speaker: Matt Obee P. Eng. VP of Operations, Cascadia Seaweed

- 18 Shellfish Innovation in BC
Guest Speaker: J.P. Hastey, NOVA Harvest
- 25 Kelp Research
Guest Speaker: Allie Bryne, North Island College.
- April 8 Environmental sustainability and the future of Aquaculture in BC
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REQUIRED TEXT BOOK

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

REQUIRED READINGS

Course readings will be available on Brightspace.

FIELD TRIP

Arrangements are being made for an overnight field excursion on Vancouver Island. Participation is encouraged but not required. The Department of Geography will contribute towards the cost, but students will have to make up the difference. The cost will be indicated prior to signup sheets being made available. Dates have yet to be confirmed but will include a Monday.

EVALUATION

Your grade will be based on five research papers. Each paper 2,500 – 3,000 words plus references. The topics are:

The Future of Salmon Farming in BC *is... ?* The open ocean net pen vs. on land debate.
Due

First Nations are divided when it comes to salmon farming. Some want the operations in their traditional territories while others want to exclude them.
Due

Genomic Applications in Aquaculture: Challenges and Opportunities in BC.
Due

Discuss the challenges that Shellfish growers face in BC
Due

Kelp Can it live up to its hype?
Due

GRADING SYSTEM

As per the Academic Calendar:

Grade	Grade point value	Grade scale	Description
A+	9	90-100%	Exceptional, outstanding and excellent 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%	Very good, good and solid performance. Normally achieved by the largest number of students. These grades indicate a good grasp of the subject matter or
B	5	73-76%	
B-	4	70-72%	

			excellent grasp in one area balanced with satisfactory grasp in the other area.
C+ C	3 2	65-69% 60-64%	Satisfactory , or minimally satisfactory . These grades indicate a satisfactory performance and knowledge of the subject matter.
D	1	50-59%	Marginal Performance. A student receiving this grade demonstrated a superficial grasp of the subject matter.
F	0	0-49%	Unsatisfactory 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.

GEOGRAPHY DEPARTMENT INFO

- Geography Department website: <http://geog.uvic.ca>
- Undergraduate Advisor: geogadvisor@uvic.ca

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. 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

Web: 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/

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/

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/. *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