

Faculty of Science and Faculty of Graduate Studies Course Syllabus
Department of Biology

MARI 3604.03 – BIOL 5604.03
Field Aquaculture (Online)
Summer 2020, SEASIDE

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Questions MUST be posted in Brightspace's Discussion boards (see guidelines below). Only use email for private/personal matters.

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Time zone: All times (syllabus, Brightspace, calendar, etc.) are in **Atlantic Daylight Time (ADT, UTC-3)**

Course Description

This course teaches students aquaculture techniques through online “virtual field trips” to several aquaculture facilities in the Maritimes and around the World (e.g. farms, hatcheries, etc.). The “virtual field trips” consist of online video-calls where students can ask questions in real-time to farmers, but also include curated PowerPoint presentations with photos and videos that can be studied asynchronously. Students also learn basic video editing techniques (i.e. video editing, screen capturing, animation, script writing and other aspects of pre-production, production and post-production), which are needed for the final project consisting of the production of a YouTube mini-documentary video of a farm.

Course Prerequisites:

Undergraduate	Graduate
BIOL 2003.03 – Animal Diversity OR Instructor's approval	Instructor's approval
Recommended: MARI 3602.03 Introduction to Aquaculture	

Key knowledge or skills expected of students coming into the course

- Students should be familiar with the basic concepts of aquaculture and the diversity of animal life.

Course Goals and Outcomes

- Describe aquaculture techniques, methods and processes employed in the Maritime provinces of Canada
- Identify culturing techniques to grow microalgae, rotifers, artemia and other aquatic species
- Compare techniques used in the research and culturing of shellfish and finfish species
- Describe skills used in the cleaning and processing of aquaculture species
- Recognize techniques for assessment and monitoring of water quality

Course Materials

Class notes: Class notes are posted on BrightSpace.

OneDrive: Photos, videos and other documents will also be posted in a OneDrive folder (link to folder is in Brightspace). This folder also will be used to back up your work.

Announcements: **Electronic announcements and additional material will be posted on BrightSpace. Students should check the site frequently.**

Text book: There is no textbook required for this course.

Other suggested resources:

Aquaculture. Farming Aquatic Animals and Plants. 2nd edition 2012. J. Lucas and P. Southgate (Editors), 629 pp.	SH 21 A68 2003
Encyclopedia of Aquaculture. (2000). R. Stickney (Editor)	SH 20.3 E53
Principles of Aquaculture. R Stickney	SH 135 S74 1994
Introduction to aquaculture. M. Landau	SH 135 L36 1992
Ecological Aquaculture. The evolution of the blue revolution B. Costa-Pierce	SH 135 E35 2002
Cold-water aquaculture in Atlantic Canada A. Boghen	SH 37 C64 1995

Course Assessment

Component*	Weight (% of final grade)		Date
	Undergrad	Graduate	
Quizzes*	30	20	Beginning of most lectures/labs For specific due dates, please refer to the Detailed Schedule table below (in the Course Content Section)
YouTube mini-documentary ◊	(adds to 55)	(adds to 46)	
- Outline ◊	4	3	
- PowerPoint storyboard (v1) ◊	4	3	
- Questions for farmer ◊	4	3	
- Chair Q&A interview with farmer ◊	4	3	
- PowerPoint storyboard (v2) ◊	5	4	
- Questions for students ◊	5	4	
- Animation of culture cycle ◊	4	3	
- Script ◊	5	4	
- YouTube mini-documentary (v1) ◊	10	9	
- YouTube mini-documentary (v2) ◊	10	9	
Final Exam*	15	14	
Research paper*	-	20	
TOTAL	/100	/100	

* Individual work

◊ Teamwork

Conversion of numerical grades to Final Letter Grades

Undergraduate students follows the [Dalhousie Common Grade Scale](#). Graduate students follows a more strict scale, where a minimum of 70% (B-) is required to pass.

%	Undergraduate			Graduate		
	Letter Grade	Grade Point Value	Definition	Letter Grade	Grade Point Value	Definition
90 - 100	A+	4.30	Exceptional	A+	4.30	Exceptional

85-89	A	4.00	Excellent	A	4.00	Excellent
80-84	A-	3.70	Very Good	A-	3.70	Very Good
77-79	B+	3.30		B+	3.30	
73-76	B	3.00	Good	B	3.00	Good
70-72	B-	2.70		B-	2.70	
65-69	C+	2.30	Satisfactory	F	0.00	Failure
60-64	C	2.00		F		
55-59	C-	1.70		F		
50-54	D	1.00	Marginal Pass	F		
<50	F	0.00	Failure	F		

Course Policies

Discussion boards. All questions MUST be posted in Brightspace’s Discussion boards. Only use email for private/personal matters. Please follow the posting guidelines below:

- Before you post your question, **CHECK** if the question has already been asked/answered
- Post only ONE question per post. If you have multiple questions, post them in separate posts
- The post’s TITLE should be your question
- If you know the answer to a question, please help by answering the post
- Be respectful and polite

Participation. You are expected to contribute to the discussion boards (questions **AND ANSWERS**). You are responsible for communicating (email, zoom, etc.) with your teammates. You are expected to participate in some of the real-time activities of the class, as explained below in the attendance section. If you do not participate accordingly, marks will be deducted.

Attendance. Many portions of this course are asynchronous (i.e. not in real-time) to enable you to do them at your time and at your own pace. Some other portions of this course are synchronous (i.e. in real-time, e.g. video-calls with farmers, socials, etc.). You are required to participate in the real-time events that are associated with your team (e.g. Chairing the Q&A interview with your farmer). However, other real-time events are not mandatory, although you are encouraged to participate in as many real-time events as you can.

Video-call protocols and etiquette. Synchronous (i.e. real-time) events will require you to connect, via a link posted in Brightspace, to a “Zoom” video-call event (**all time are in Atlantic Daylight Time, UTC-3**) **please be aware of time zones differences** and follow the etiquette below:

- You are expected to have your **camera ON when talking** in a video-call, therefore:
 - Be mindful of your clothing and appearance
 - Be mindful of your background
 - Silence your cellphone and other electronic devices
 - Advise your roommates about your video-call so they are also mindful
- **Camera always on** during video-calls with only a few participants (e.g. teammates + instructor)
- **Camera intermittently on/off** during video-calls with the whole class (i.e. lots of participants)
 - Turn ON camera and microphone when talking
 - Turn OFF camera and microphone when just listening
 - Follow moderator’s advice. For example, the moderator may ask the whole class to turn their cameras ON when greeting a farmer.

Quizzes: Online quizzes (approx. 10 minutes) will be applied to test the material from lectures and from the PowerPoints of different farms. Each quiz will be available for 24 hours. Students can answer the quiz at anytime during those 24 hours; however, there is set amount of time to answer the quiz once it is started, and there is only one attempt. Students are **required** to make and use a **hand-written “cheat-sheet”** for each Quiz. **A photo of the cheat-sheet must be uploaded to its corresponding Brightspace dropbox BEFORE you do the quiz.** Cheat-sheets not meeting specifications (see below) will result in a zero grade in the corresponding quiz. Note that appropriate documentation (e.g. SDA form, doctor’s note) is required to justify missed quizzes.

Cheat-sheet specifications:

- Cheat-sheets are personal. **Copying somebody else’s cheat-sheet is a serious plagiarism offence** requiring the Instructor to report all involved parties to the Academic Integrity Office.
- Cheat-sheets **MUST** be hand-written on paper. Digitization, electronic manipulation, photocopying, photographing and/or printing of cheat-sheets is not allowed.
- Size: each cheat-sheet is limited to one side of a letter-sized sheet of paper.
- Content: Anything you want, but **must** demonstrate effort to synthesize lecture content.

NOTE: On your cheat-sheet, write your name, B00 number, date and Quiz number.

YouTube mini-documentary: The final project for this course is the production of a mini-documentary. This is a group project (~3 people per team), where each team will do a different farm. The mini-documentary will be posted on a private YouTube channel for review by students and farmers. Each farmer may give us written authorization to post the video of their farm in a public YouTube channel. If the farmer does not give us permission, the mini-documentary must remain private. Below are details about this project:

- **Copy-rights and non-disclosure of information and media.** Many farmers have uploaded to our server a combination of media (photos/video), documents and other information that you can use exclusively for this course. **DO NOT share or post any of the farmer’s information and/or media to your social networks or elsewhere.** This information and media can (intendedly or unittedly) be used to harm the farmer’s reputation, which may lead to **legal action against yourself.**
- **Daily backups.** You must do daily backups to the OneDrive folder assigned to your team, to protect all your files (media, animations, open-shot project file, etc.)
- **Marking scales.** Three different marking scales will be used to mark the different components needed to complete the mini-documentary (see components below). These marking scales are:
 - Pass/fail marking (i.e. 100 or 0%)
 - Categorical marking (i.e. 100, 75, 50 or 0%)
 - Full range marking (i.e. any mark between 0% and 100%)
- **Outline** [pass/fail mark]. Bullet-points describing the rough story and flow of the mini-documentary. See Brightspace for an example.
- **PowerPoint storyboard (V1)** [categorical mark]. Detailed shot-by-shot depiction of the mini-documentary. This is version 1, and its main purpose is to figure out what to ask to the farmer or what kind of media do you need. After you talk to the farmer, you will get time to refine your Powerpoint storyboard V1, to produce V2.
- **Questions to farmers** [categorical mark]. A set of questions to be sent to the farmer the day before the Q&A video-call, and to be asked during the Q&A video-call. See Brightspace for an example.
- **Chair Q&A interview with farmer** [categorical mark]. All team members are required to be present at the video-call with the farmer. In this Q&A interview:

- At least one team member will be in charge of asking the questions to the farmer (video camera must remain ON, since this will be the main face the farmer will see during the interview).
- Team members are **responsible for video recording the Q&A video-call** (it will be used as part of the minidocumentary). At least one team member should “pin” the zoom screen to the farmer’s feed to get footage of the farmer even when other people talk or there is a “screen-share”.
- If you found a photo/video in the farm’s website or Facebook, but you do not quite know what the photo/video shows, this is your chance to ask the farmer. You can share your screen in Zoom, to show the farmer the photo/video in question
- **PowerPoint storyboard (V2)** [full-range mark]. Detailed shot-by-shot depiction of the mini-documentary. This is version 2, it should now include extra information that you got from the Q&A session with the farmer. The main purpose is twofold, (1) to guide you in the production and video editing of your documentary, and (2) to be studied by the rest of the class to learn details about your farm. The content of your PowerPoint storyboard V2 will be included in one quiz and in the Final Exam.
- **Questions for students** [categorical mark]. Each team is responsible to produce 15 questions about their farm. The answers to these questions must be found in the PowerPoint storyboard V2. These questions will be used in the quizzes and the Final Exam. Do not share your questions (or answers) with members of other teams.
- **Animation of culture cycle** [full-range mark]. As part of the mini-documentary, each team needs to produce a small animation to explain the culture cycle of the farm (e.g. from eggs, to larvae, to juveniles, to harvest, to packing, to market).
- **Script** [categorical mark]. These is the text to be read by the mini-documentary narrator (i.e. you)
- **YouTube mini-documentary (V1)** [full-range mark]. This is almost your final product. You will still receive feedback from other students, instructor, TA and farmer. Therefore, there will be the chance to make some improvements.
- **YouTube mini-documentary (V2)** [full-range mark]. Teams get to make changes, incorporate comments and improvements, and submit their video a second time (i.e. V2). In practice, the total mark for the YouTube mini-documentary will work out to be the average of V1 and V2.
- **Open-shot project and raw media files** [deductions]. At the end of the project, you must provide copies of all the files that you used to do your mini-documentary to the OneDrive folder assigned to your team. If you did your daily backups, this should be already done. Missing parts will incur proportional deductions. Therefore, if you do not provide any raw media files, the mark for the entire mini-documentary project will be zero.

Final exam: Exam is online, and format is multiple choice and/or short answers. You **are allowed** to use your cheat-sheets during the final exam (i.e. open book). Final will include material from the lectures, quizzes and information from the PowerPoints (V2) of the farms.

Research paper (Graduate students only)

Each graduate student needs to prepare a *Literature Review* “manuscript” following the “Review Articles” guidelines in the [“Guide for Authors”](#) from the journal *Aquaculture*. The manuscript must provide objective critical evaluation of the subject. It cannot consist solely of a summary of the available literature. Evaluation of the quality of existing data, the status of knowledge, and the research required to advance knowledge of the subject are essential.

Students are encouraged to discuss their interests and propose subject ideas to the instructor. However, the subject of the review will ultimately be appointed by the instructor. If the student is registered for the *Graduate Certificate in Aquaculture*, the subject of the review must also be approved by the Certificate Coordinator.

Rubric: Research paper (Graduate Students only)

Component		Comments	Weight (%)
Format		Manuscript must follow the formatting guidelines from the “Guide for Authors – Type of paper: Review Articles” from the journal Aquaculture https://www.elsevier.com/journals/aquaculture/0044-8486/guide-for-authors	5%
Clarity		Writing style must be clear and concise. The main content must be divided using headings carefully chosen to assist the reader to understand the content	10%
Critical thinking		The manuscript cannot be a simple summary of literature. Students must demonstrate the ability to evaluate the quality of the available knowledge and to provide suggestions for further advance the subject	10%
Content	Title	Follow instructions in “Guide for Authors – Type of paper: Review Articles” from the journal Aquaculture. https://www.elsevier.com/journals/aquaculture/0044-8486/guide-for-authors	5%
	Abstract		10%
	Table of contents		5%
	Introduction		5%
	Content sections		30%
	Conclusions		10%
	References		10%
TOTAL:			100%

Course Content

Detailed Schedule

All dates and times are in (Halifax) **Atlantic Daylight Time** (UTC-3). Note that quizzes, exams and other due dates are shown in **red** and synchronous real-time events are shown in **blue**.

Day	Date	Topic
1	Thur May 14	<p>(11 am) Zoom meeting: Welcome and introduction to the course</p> <p>Lecture – Introduction to Aquaculture Lecture – Culture systems Students should:</p> <ul style="list-style-type: none"> - Organize into teams - Review template for “Outline” - Review template for “Questions for farmer” - Research farm background information by reading farmer’s websites, social media and uploaded content - Download and test screen capturing software - Start working on producing your team’s: <ul style="list-style-type: none"> o “Outline” o “Questions for farmer” o “PowerPoint storyboard (V1)” <p>Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace</p>



2	Fri May 15	<p>Quiz (Introduction to Aquaculture) - deadline: 11:59 pm ADT Quiz (Culture Systems) - deadline: 11:59 pm ADT</p> <p>Students should continue to work on:</p> <ul style="list-style-type: none">- Continue to work on "Outline"- Continue work on "Questions for farmer"- Continue work on "PowerPoint storyboard (V1)" <p>Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace</p> <p>Submit "Outline" - deadline: 11:59 pm ADT Submit "Questions for farmer" - deadline: 11:59 pm ADT Submit "PowerPoint storyboard (V1)" - deadline: 11:59 pm ADT</p>
3	Sat May 16	<p>Virtual-tours of farms continue. See Brightspace for times and links to meetings Chair Q&A interview with farmer (only teams with presenting farmers)</p> <p>Students should:</p> <ul style="list-style-type: none">- Attend Virtual-tours- Start work on "PowerPoint storyboard (V2)"- Download and test video-editing software (openshot)- Start work on other parts of the mini-doc (e.g. script, animation, etc.)
4	Sun May 17	<p>Virtual-tours of farms continue. See Brightspace for times and links to meetings Chair Q&A interview with farmer (only teams with presenting farmers)</p> <p>Students should:</p> <ul style="list-style-type: none">- Attend Virtual-tours- Continue work on "PowerPoint storyboard (V2)"- Continue work on other parts of the mini-doc (e.g. script, animation, etc.)
5	Mon May 18	<p>Virtual-tours of farms continue. See Brightspace for times and links to meetings Chair Q&A interview with farmer (only teams with presenting farmers)</p> <p>Students should:</p> <ul style="list-style-type: none">- Attend Virtual-tours- Continue work on "PowerPoint storyboard (V2)"- Continue work on other parts of the mini-doc (e.g. script, animation, etc.)
6	Tue May 19	<p>Virtual-tours of farms continue. See Brightspace for times and links to meetings Chair Q&A interview with farmer (only teams with presenting farmers)</p> <p>Students should:</p> <ul style="list-style-type: none">- Attend Virtual-tours- Continue work on "PowerPoint storyboard (V2)"- Continue work on other parts of the mini-doc (e.g. script, animation, etc.)
7	Wed May 20	<p>Virtual-tours of farms continue. See Brightspace for times and links to meetings Chair Q&A interview with farmer (only teams with presenting farmers)</p> <p>Students should:</p> <ul style="list-style-type: none">- Attend Virtual-tours- Continue work on "PowerPoint storyboard (V2)"



		<ul style="list-style-type: none">- Continue work on other parts of the mini-doc (e.g. script, animation, etc.)
8	Thur May 21	<p>Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace</p> <p>Students should:</p> <ul style="list-style-type: none">- Continue work on “PowerPoint storyboard (V2)”- Start (or continue) working on “Animation of culture cycle”, “script” and post-production of “YouTube mini-documentary (v1)”
9	Fri May 22	<p>Submit “PowerPoint storyboard (V2)” - deadline: 11:59 pm ADT</p> <p>Submit “Questions for students”- deadline: 11:59 pm ADT</p> <p>Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace</p> <p>Students should:</p> <ul style="list-style-type: none">- Start studying the PowerPoint storyboard (V2) of all farms- Continue working on “Animation of culture cycle”, “script” and post-production of “YouTube mini-documentary (v1)”
10	Sat May 23	<p>Submit “Animation of culture cycle “- deadline: 11:59 pm ADT</p> <p>Students should:</p> <ul style="list-style-type: none">- Continue studying the PowerPoint storyboard (V2) of all farms- Continue working on “script” and post-production of “YouTube mini-documentary (v1)”
11	Sun May 24	<p>Submit “Script”- deadline: 11:59 pm ADT</p> <p>Students should:</p> <ul style="list-style-type: none">- Continue studying the PowerPoint storyboard (V2) of all farms- Continue working on post-production of “YouTube mini-documentary (v1)”
12	Mon May 25	<p>Farm Quizzes - deadline: 11:59 pm ADT</p> <p>Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace</p> <p>Students should:</p> <ul style="list-style-type: none">- Continue studying the PowerPoint storyboard (V2) of all farms- Continue working on post-production of “YouTube mini-documentary (v1)”
13	Tue May 26	<p>Farm Quizzes - deadline: 11:59 pm ADT</p> <p>Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace</p> <p>Students should:</p> <ul style="list-style-type: none">- Continue studying the PowerPoint storyboard (V2) of all farms- Continue working on post-production of “YouTube mini-documentary (v1)”
14	Wed May 27	<p>Farm Quizzes - deadline: 11:59 pm ADT</p> <p>Submit “YouTube mini-documentary (v1)” - deadline: 11:59 pm ADT</p> <p>Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace</p> <p>Students should:</p> <ul style="list-style-type: none">- Incorporate comments and changes to produce “YouTube mini-documentary (v2)”
15	Thur	<p>Farm Quizzes - deadline: 11:59 pm ADT</p>



	May 28	Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace Students should: <ul style="list-style-type: none">- Continue studying the PowerPoint storyboard (V2) of all farms- Incorporate comments and changes to produce "YouTube mini-documentary (v2)"
16	Fri May 29	Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace Students should: <ul style="list-style-type: none">- Finalize incorporating comments and changes to produce "YouTube mini-documentary (v2)"- Study for the Final Exam
17	Sat May 30	Final exam – time to be determined Zoom meeting to ask questions and bounce ideas. See link and time in Brightspace Submit "YouTube mini-documentary (v2)" - deadline: 11:59 pm ADT Make sure all your raw files and openshot project files are backed up in the project's OneDrive - deadline: 11:59 pm ADT
-	Sat June 6	Submit "Research paper" (only Graduate Students) - deadline: 11:59 pm ADT

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

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

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Missed or Late Academic Requirements due to Student Absence (policy)

https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html

Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>