

**Faculty of Science Course Syllabus
Department of Biology
“Practical Aquaculture” MARI 3603.03
Fall 2017**

Instructor(s): Christophe Herbinger christophe.herbinger@dal.ca Room 4056,
Biology tower, LSC.

Lectures: No lectures

Laboratories: 13 laboratories, 3 hours-long Wednesday 11:35 to 14:25 in Room 2112, Biology

Tutorials: No tutorials

Course Description

This course provides students with aquaculture practical experience. One (or two) field trip(s) expose students to real life issues for aquaculturists. The laboratories help students acquire skills useful for conducting experiments with aquatic animals (e.g. marking, measuring, anaesthesia, etc.). Students collect real data and learn to conduct exploratory graphical and statistical analyses.

Course Prerequisites

STAT 1060.03 and BIOL 2003.03 (prerequisite)

MARI 3602.03 (prerequisite or corequisite)

Key knowledge or skills expected of students coming into the course

Basic statistical knowledge (STAT 1060.03 or equivalent first year course)

NOTE: The above is intended as a guide for students to assess their preparation for this course. It is not meant to be a comprehensive or exhaustive list.

Course Goals and Outcomes

Synthesize the information collected during production site visits (Field trip(s))
Identify proper care and use of fish as experimental animal (Lab)
Demonstrate fish necropsy skills (Lab)
Demonstrate basic rope and knots skills (Lab)
Generate appropriate tables and graphs to represent data (Lab)
Demonstrate ability to identify erroneous data and to clean-up experimental database
Identify patterns in graphs related to basic phytoplankton/zooplankton population growth (Lab)
Analyse statistically fish growth data collected in a class run experiment (Lab)
Write two preliminary reports and three formal laboratory reports (Lab)

Course Materials

- There is no textbook.
- All class notes and laboratory instructions are posted on-line (Brightspace).
- Announcements, additional material, data to analyze and analysis instructions will be posted regularly and students should check the site frequently.

Course Assessment

Component	Weight (% of final grade)	Tentative Date
Tests/quizzes		
CCAC test "Introduction to the care and use of Fish"	5%	~ Sept 20
Rope and knots test	3%	~ Oct 4
Fish Necropsy test	3%	~ Nov 22
Assignments		
Field trip report	15%	~ Oct 6
Preliminary Fish 1 report	5%	~ Oct 20
Preliminary Phyto-Zooplankton report	5%	~ Nov 3
Fish 1 report	19%	~ Nov 14
Phyto-Zooplankton report	18%	~ Nov 24
Final Fish 2 report	27%	~ Dec 6

Note that **all indicate dates above are tentative at best and are not final**. The actual due dates for each assignment element will be determined by the order, timing and outcome of the various experiment(s) and will be announced on Brightspace.

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D	(50-54)
A (85-89)	B (73-76)	C (60-64)	F	(<50)
A- (80-84)	B- (70-72)	C- (55-59)		

Course Policies

Laboratory and field trip attendance is compulsory. One Sunday field trip will be organized at a time hopefully convenient for all. In the week following that field visit, students will submit a short review (3-5 pages) of the information they acquired during the visit (what they saw, heard, points of particular interest, etc.). One optional afternoon field trip might also be organized in early September.

Important Note! Field trip fees have already been collected to partly offset the cost of bus rental when you registered for the class. These field trip fees are only refundable if you drop the class before Sept 18.

There is a late penalty schedule in place for late assignments

Number of day late: Penalty/

1: 10% / 2: 20% / 3: 30% / 4: 50% / 5: 70% / 6: 100%

Course Content

Week 1: Course introduction

Week 2: Aquatron Tour and Introduction to ImageJ analysis.

Week 3: CCAC: Introduction to the Care and Use of Fish: Theoretical section and Test

Week 4: CCAC: Introduction to the Care and Use of Fish: Practical section. Field trip visit to Truro (recirculation facility, DalAgri campus, North River fish farm) and Merrigonish (ShanDaph Oyster farm)

Week 5: Fish 1: Fish growth experiment, first measures (Field trip report)

Week 6: Help with Fish1. Ropes and Knots (Test)

Week 7: Phyto-Zooplankton measures (PZP) and Help with Fish 1 (Prelim Fish 1 report)

Week 8: Help with Fish 1 and Help with PZP

Week 9: Help with Fish 1 and Help with PZP (Prelim PZP report)

Week 10: Study Break

Week 11: Fish 2: Fish growth experiment, last measures. (Fish 1 Report)

Week 12: Fish necropsy Lab. Test. (PZP Report)

Week 13: Help with Fish 2

Week 14: Fish 2 report