BIOL 316
Fisheries Biology

Winter Term (2014-15)

CALENDAR DESCRIPTION

An introduction to the basic principles of fisheries biology and examination of the biological foundations of current problems affecting the world's fisheries, with an emphasis on developing sound science-based strategies to resolve these problems.

PREREQUISITE BIOL 103/3.0 and BIOL 202/3.0. EQUIVALENCY *BIOL 415/3.0.*

SCHEDULE

Lectures: Monday 1:30-2:30pm, Wednesday 12:30-1:30pm, Friday 11:30-12:30pm. BIOSC 1102.

Instructor	**Dr. B. Tufts**
Instructor Contact	tuftsb@queensu.ca, Phone: 36143, Rm. 3115 Bioscience
Office Hours	1:30 – 4:30 PM Tues, Weds, Thurs or by appointment
TA:	See Moodle site
TA Contact Information	See Moodle site
Office Hours	See Moodle site

Learning Objectives

1. You should be able to describe the general taxonomic groupings of fish and some of the key features of fish in these groups.

2. You should be able to discuss similarities and differences in important biological processes such as feeding, growth, reproduction and migration.

3. You should be able to explain why a good understanding of biological aspects such as reproductive strategy, recruitment and trophic ecology are essential in order to properly manage fisheries.

4. You should be able to discuss the underlying biological issues that are relevant to recent fisheries issues such as aquaculture, fisheries collapses and the potential impacts of climate change.

Learning Hours

Teaching method		*Average hours per week*	*Number of weeks*	*Total hours*
In-class hours	Lecture	3	12	36
	Seminar			
	Laboratory			
	Tutorial			
	Practicum			
	Group learning			

	Individual instruction			
Other	Online activity			
	Off-campus activity			
	Private study	7	12	84
Total hours on task				120

Course Outline

The main topics covered in this course include the diversity of fish, reproduction and life histories, early life history stages and recruitment, feeding, growth, physiology, trophic ecology, migration, hatcheries and stocking, aquaculture, basic principles and history of marine fisheries, history of inland fisheries, fisheries assessment, surplus production models, managing fisheries, habitat, evolution in fisheries, live-release fisheries, marine protected areas and sustaining fish biodiversity.

Textbooks/Readings

There is no textbook for this course. Notes and readings will be posted on the Moodle site.

Grading Scheme

Component	Weight (%)	Date
Mid-term	15	March
Final Exam	35	April
Term Paper Outline	10	February
Term Paper	40	March

Grading Method

• All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale.

Your course average will then be converted to a final letter grade according to Queen's Official Grade Conversion Scale:

Queen's Official Grade Conversion Scale

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52

F	49 and below

Academic Integrity and Queen's Code of Conduct

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and conduct conform to the principles of academic integrity. Information is available in the Arts and Science Calendar (see Academic Regulation 1 - http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations, on the Arts and Science website (see http://www.queensu.ca/artsci/academics/undergraduate/academic-integrity), and at Biology's website (http://www.queensu.ca/biology/undergrad/integrity.html) and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulations on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Accommodation Policy, Exam Conflicts, and Other Conflicts

Students who feel they need accommodations for disabilities or extenuating circumstances, or have a conflict between exams or other commitments should consult the Biology Department's website for details about how to proceed (http://www.queensu.ca/biology/undergrad/integrity.html). In general, the earlier a course coordinator is apprised of an extenuating circumstance, the more likely an accommodation can be made. Students are encouraged to be proactive in anticipating difficulties, when it is possible to do so.

Students may apply to write a make-up or deferred exam if they have an exam conflict as defined in the Academic Regulations of the Faculty (See Arts and Science Calendar Regulation 8 - http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations). In this case, the student should report to the Exams Office first to verify that there is a genuine exam conflict. Biology professors will not consider your situation to be a conflict unless it meets the criteria set out by the Faculty of Arts and Sciences.

Students may request a make-up or deferred exam if they have an exam conflict with off-campus travel associated with a field course (e.g BIOL-307/3.0 or 407/3.0) that is held during the fall or winter terms.

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Accommodation of Disabilities

Queen's University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Disability Services Office (DSO) and register as early as possible. For more information, including important deadlines, please

visit the DSO website at: http://www.queensu.ca/hcds/ds/