

# SCIENCE AND TECHNOLOGY IN AQUACULTURE

## Course AQUA\*6100

**DEPARTMENT:** MSc-Aquaculture, Interdepartmental Program

**COURSE NUMBER:** AQUA\*6100

**SEMESTER:** Winter 2008

**PREREQUISITES:** Student must be in MSC-Aquaculture Program or special permission granted

**COREQUISITES:** None

### COURSE COORDINATOR:

Professor Richard D. Moccia, Room 135, ANNU, ext. 56216, or 519-826-3800

email: [rmoccia@uoguelph.ca](mailto:rmoccia@uoguelph.ca)

website: <http://www.aps.uoguelph.ca/faculty/rmoccia.html>

### STUDENT CONSULTATION HOURS

All consult times by appointment only.

Contact Helen Neals, 519-826-3800, [secagrfd@uoguelph.ca](mailto:secagrfd@uoguelph.ca) to book a time

### SESSION LEADERS (tentative)

1. Prof. Richard Moccia, Animal and Poultry Sciences, Ext. 56216, Rm. 135 ANNU
2. Dr. Dominique Bureau, Animal and Poultry Sciences, Ext. 53668, Rm. 153 ANNU
3. Dr. John Leatherland, Biomedical Sciences, Ext. 54904, Rm. 2632, OVC
4. TBA
5. TBA
6. Others TBA

**LECTURE HRS/WK:** 2 x 1.5 = 3

**LAB HRS/WK:** 0

**TOTAL CONTACT HRS:** 33

**GRADUATE CREDITS:** 0.5

### LECTURE SLOT:

As required, Wednesday and Thursday, 2:30 - 4:00 am, Room 002, ANNU

### SEMESTER SCHEDULE:

Classes: January 7 - April 4, 2008

Winter Break: Monday, February 18 to Friday, February 22 inclusive

Exam Period: Monday, April 7 to Friday, April 18. **No exams are scheduled for this course.**

## **GENERAL DESCRIPTION AND COURSE OBJECTIVES:**

This course will examine the role of science and technology related to the aquaculture industry. Latest advances in the scientific community will be explored, with special attention paid to those developments having promise for commercialization by the private sector. In an interactive environment, the class will discuss the relationships between basic and applied science, technology transfer, extension, commercialization of technology, and the manner in which industry exploits knowledge derived through research.

Session leaders will present one or two formal lectures covering their research discipline, especially highlighting novel research findings which may offer solutions to current or future problems facing the aquaculture industry. Real, or hypothetical problems, will be presented to 'Solution Teams' of one, two or three students each. These teams will be required to review the current literature, and present for class debate, a unique solution to an assigned problem. This approach will expose students to a variety of challenges, including; team and project management, problem identification, sourcing and critical evaluation of current research works, presentation techniques, communication and debating skills, and the need to think objectively and 'laterally', about ways to solve problems. In addition, students will gain insight into specific, contemporary issues which face the aquaculture industry, and in doing so, they should develop an appreciation for the importance of the link between researchers and industry partners.

## **METHOD OF EVALUATION**

1. Problem Solving Modules 1 to 5 = 65 % (1 module @ 5 %, and 4 modules @ 15 % each)

'Solution Teams' will be made up of one or more students each, depending on the task and class size. These teams will be expected to complete a variety of problem-based assignments in each of five modules. After being presented with a 'Real' or 'Hypothetical' problem by the session leader, the team will organize itself around the task of solving the problem. Research literature will need to be reviewed and discussed by the team, and brainstorming sessions should attempt to develop unique solutions to the problem, and identify the various pros and cons which relate to the approach. Brief (max. 30 minute) presentations will be made by the team, and the entire class will debate the merits of the 'solution' or other scenario presented. Teams are encouraged to be innovative in their approaches to problem-solving, and not to be afraid of taking risks with their ideas. NO IDEA is 'TOO FAR OUT', as long as the team can present a convincing case for the solution. Written reports may be required. The length and detail required for these reports will vary depending on the particular assignment, and this will be reviewed with the session leader prior to undertaking each module.

2. Problem Solving Module 6 - Welfare Assignment and Seminar (15 %)

Refer to 'Welfare Handout' for details of this assignment.

3. Module 7 - Popular Press Article (20 %). (this may be optional ?)

Details of this assignment will be discussed in the first class. A short 'Popular Press' article, to be submitted to Northern Aquaculture Magazine, must be completed before the end of the semester. Individual topics can be highly varied, but the subject area must have something to do with technological advancements on the farm. See also the 'Writer's Guide' for Northern Aquaculture magazine attached.

**READING MATERIAL:**

Because of the broad, interdisciplinary nature of this course, there is no single textbook available or required. A list of reading material will be provided by each individual instructor as appropriate for their particular sessions.