

**SPECIAL PROJECT IN AQUACULTURE**  
**AQUA-6000**  
**Fall, Winter and Spring Semesters**

**COURSE OUTLINE AND PROJECT REQUIREMENTS**

- Course Co-ordinator:** Professor Richard D. Moccia  
Animal and Poultry Science, Rm. 135, Ext. 56216 (office)  
email: rmoccia@uoguelph.ca
- Project Advisor:** Normally the project supervisor will be the student's academic program advisor, but any member of the M.Sc.-Aquaculture core faculty group may serve in this capacity.
- Course Description:** The 'Special Project in Aquaculture' is a 1.0 credit, graduate course offering which provides an intensive learning opportunity through the undertaking of an applied research project related to the aquaculture industry. Completion of a literature review and research project will form the basis for a final report and oral presentation to be made to a 'Special Project Committee'. The special project will provide hands-on research experience with live animals, either in a laboratory or commercial setting. Other projects which do not involve animals, but which are relevant to aquaculture, may also be undertaken after approval by the 'Special Project Committee'. Projects are normally completed within a maximum of two consecutive semesters. A third semester can be approved to complete the course requirements if necessary. All students enrolled in the M.Sc.-Aquaculture program are required to successfully complete this course.
- Course Objectives:** To provide a challenging opportunity for students to carry out independent research projects related to aquaculture. In doing so, students will develop a variety of skills, including but not limited to; understanding the scientific method of investigation, developing research objectives and hypotheses; planning and executing a series of experiments or complex task assignments; collecting and analyzing data; critical evaluation of findings; reporting of results and conclusions; writing a research manuscript; communication and oral presentation techniques; and managing time and project tasks.
- Tasks:** i) Select an area of interest in consultation with the student's academic program advisor, and/or the course co-ordinator. After approval of the selected topic, a 'Special Project Committee' will be formed with at least three faculty members. The three faculty members will normally be the student's advisory committee, but may also include any other members of the core faculty group of the M.Sc.-Aquaculture program.
- ii) Organize Committee Meetings: Early in the project's time-line, and in any event, no later than the end of the first semester in which you are registered in the course, the student must co-ordinate an organizational meeting for the 'Special Project Committee' and the Course Co-ordinator. In this meeting, you will outline your project objectives, discuss the proposed

methodology and resource requirements for the project, and develop a complete time-line for completion of the course. Other committee meetings should be organized by the student as required. These tasks will contribute, in part, to your grade assessment (see below)

iii) Submit a written project proposal which includes:

- a brief literature review;
- statement of project objectives;
- a working hypothesis or question to be resolved;
- a summary of the suggested methods to test the hypothesis (with method of data collection and analysis included);
- a time-line for project completion

iv) Carry out the planned project paying special attention to:

- designing properly controlled experiments or other procedures;
- keeping appropriate, accurate and organized data;
- analyzing data scientifically; and
- interpreting the results appropriately

v) Prepare a final report on the completed project. Each special project committee member should be given a copy of the **FINAL PROJECT REPORT** at least two weeks prior to the oral presentation and examination (see below). It is highly recommended that the student submit draft reports for the committee to review **PRIOR** to producing the final version. Grade assessment will be made based on the final report submitted to the examination committee.

vi) Deliver a maximum 30 minute oral presentation and complete an oral examination.

### ***Choice and Submission of the Special Project Topic:***

Students who wish to enrol in the 'Special Project in Aquaculture' course should consult with their advisor and the course co-ordinator, well in advance of the first semester in which they intend to register in this course. Once the Special Project Committee is formed, the student must submit a project proposal to the committee as soon as possible, **but no later than the final week of the first semester** in which they are registered in this course. Projects should be developed that have discrete objectives, reasonable time-lines, and should be properly designed with sufficient replication to permit credible statistical analyses. Wherever possible, the project should be designed with the intention of submitting a research manuscript to a peer-reviewed journal for possible publication, and students and their project committees should strive for this goal in the development of the project.

### ***Written Reports:***

The final report should be written in a 'journal article format' to permit submission to a scientific journal, and students should consult the "Instructions for Authors" for Aquaculture Research to review requirements for formatting, structure and referencing style. See the following website:

<http://www.blackwellpublishing.com/submit.asp?ref=1355-557X&site=1>

Manuscripts should include an abstract or summary, an introduction, a relevant literature review, well defined objectives and a working hypothesis, a concise materials and methods section, an effective presentation of results, and a critical discussion and conclusion section based on findings. Each Special Project Committee member should be given a final project report to review at least two weeks before the oral presentation/exam. It is anticipated that suggestions from the examination committee will be included in a 'submission draft' of the manuscript, prepared after the oral exam, and that this copy should form the basis of the manuscript which will be submitted to a journal.

***Oral Presentation and Examination:***

The oral seminar will be presented to the Special Project Committee and any member of the M.Sc.-Aquaculture program, including students and other core faculty who wish to attend. The oral presentation should not be longer than 30 minutes, with an additional 5-10 minutes for general discussion and interaction with the attending audience. The general audience will then be asked to leave the room before the proceeding oral examination portion of the session. Following this general discussion, there will be up to a maximum of one hour for questions from the advisory committee. **This requirement must be completed no later than the end of the last week of scheduled exams, in the second consecutive semester (or third semester only if approved) in which the student is registered in this course.** The student will be expected to give an adequate defence of the projects' methods, results and conclusions during the examination

***Itinerary:***

The purpose of the final seminar and oral examination is to:

1. Allow the student to present, through an oral seminar, the significant findings of their 'Special Project' to the Examining Committee, as well as to any other members of the University community.
2. To provide an opportunity for the student to debate and defend various aspects of the experimental design, data analyses, results and conclusions presented in the final project report.
3. Provide the Examining Committee with an opportunity to evaluate the students overall performance in undertaking the project, and to assign a final grade.

4. **GENERAL EXAM ITINERARY**

<u>Time (Hours:Minutes)</u>	<u>Item</u>
0:10 (2')	Introduction of candidate by Advisor
0:12 (30')	Seminar presentation by candidate
0:42 (3')	Relaxation Break
0:45 (15')	Open question session from audience
1:00 (15')	Examiner 1 Questions
1:15 (15')	Examiner 2 Questions
1:30 (15')	Examiner 3 (Advisor) Questions
1:45	Candidate leaves the room
	Examination Committee discusses final grade assessment
2:00	Session Concludes

***Performance Evaluation:***

The final grade in the course will be assigned by the Special Project Committee members, and will be based on the following breakdown:

1. Project organization, implementation and execution @ 40 %
2. Final written report @ 30 %
3. Oral presentation and examination @ 30 %

**Contact the course co-ordinator if you have any further questions regarding these requirements.**

**Good luck with your special project !**

**rich moccia**