

## Department of Aquaculture and Fisheries SAFHS Course-based Portfolio Projects

Instructor	Course	SAFHS Goal #	Assignment
Eggleton	Topics in Fisheries & Aquaculture	7	Natural resource management careers
S. Lochmann	Ichthyology	10	Field collection lab and fish Identification
Eggleton	Fisheries Techniques	5,10	Field fisheries and habitat survey
Perschbacher	Limnology	10	Individual research project
Perschbacher	Aquaculture	8,9	Oral report on cultured species
Perschbacher	Senior Seminar	4	Interdisciplinary group project
Goodwin	Biology of Fishes	5	Fish function model
Eggleton	Fish Management	2 6	Scientific method Fish population statistics exercise
R. Lochmann	Aquatic Animal Nutrition	5,6	Oral presentation with graphic display Quantification of nutrient requirements
Engle	Aquaculture Economics & Marketing	1,3	Business loan proposal and lending institution evaluation

### **AQFI 1102 – Topics in Aquaculture & Fisheries**

**Natural resource management careers.** This homework assignment will involve students going to the internet and finding their dream job in aquaculture or fisheries. They will have to identify a professional doing that job and acquire their resume. The students will then have to create their own resume and compare their resume to the resume of the professional, and prepare a written report of their educational and experience deficiencies. The student's resume will be included in the portfolio. Satisfies SAFHS Goal 7.

### **AQFI 2247/2147 – Fisheries Techniques**

**Field fisheries and habitat survey.** Students will visit a representative region stream and assess the biological community through backpack electrofishing and macroinvertebrate collections. Students will also characterize the physical habitat and water quality of the stream using standard techniques discussed in class. The results will be presented in a comprehensive lab write-up, with write-up being included in the student's portfolio. Satisfies SAFHS Goals 5 and 10.

### **AQFI 2329/2129 – Aquaculture**

**Cultured species summary.** The individual project in this class will be a report on an aquaculture topic not covered during regular class. A fact sheet will be prepared for distribution during a 5-10 min oral presentation of the topic. The fact sheet will be included in the student's portfolio. Satisfies SAFHS Goals 8 and 9.

### **AQFI 2253/2153 – Biology of Fishes**

**Fish function.** Students will work in groups to develop a model that demonstrates some aspect of fish function. The project will include a preliminary design, prototype construction, and presentation of the model as a group. Grades will be assigned in part by other group members and in part by the instructor. A picture of the model also is required for the assignment. The preliminary design and the picture of the model will be included in the student's portfolio. Satisfies SAFHS Goal 2.

### **AQFI 2462 – Ichthyology**

**Field collection lab.** Students will visit a representative river, lake, or stream and collect fishes using a variety of active sampling techniques. The students will then be required to key out individual fishes to the species level using standard dichotomous keys, such as *Fishes of Arkansas*. The choices made from the dichotomous key and the correct identification of the species will be included in the student's portfolio. Satisfies SAFHS Goal 10.

### **AQFI 2601, 2602, and 2603 – Aquaculture and Fisheries Internship**

It is recommended that the portfolio folder kept for this course during the summer it is taken be submitted along with your other portfolio projects during Senior Seminar class.

**AQFI 3329 – Limnology**

**Individual research project.** During the final month of class, students will undertake an individual research project on a topic chosen by the student and approved by the instructor. The research project will require a written report and an oral presentation to be made in class during finals week. The written report will be included in the student's portfolio. Satisfies SAFHS Goal 10.

**AQFI 3371 - Fisheries Management (2 projects)**

**The scientific method.** Students will assess the utility of the scientific method by writing a review of a published fisheries management study and identifying from the manuscript how and when each of the steps in the scientific method were met. Students must determine whether the scientific method was actually followed and whether better results could have been acquired through a different means of knowledge pursuit. The written review of the manuscript will be included in the student's portfolio. SAFHS Goal 2

**Fish population dynamics.** Students will use an Excel spreadsheet and raw fisheries data to generate basic fisheries statistics, such as exploitation rate, total annual mortality rate, or growth rate for a fish population. The students will then be required to compare their estimates with published ones in the literature for other populations. The Excel spreadsheet will be included in the student's portfolio. Satisfies SAFHS Goal 6.

**AQFI 4201 - Senior Seminar**

**Interdisciplinary team project.** In Senior Seminar, students will undertake a group project to research a current topic selected by the students and approved by the instructor. Students will produce a technical report and complete a group presentation on the topic. The emphasis will be on working as an interdisciplinary group (i.e., with non-fisheries or non-aquaculture students) to complete the assignment. The technical report will be included in the student's portfolio. Satisfies SAFHS Goal 4.

**AQFI 4300 – Special Problems**

No specific portfolio project is required for this course, but it is recommended that the report or other original work done for this course be submitted along with your other portfolio projects during Senior Seminar class.

**AQFI 4321 - Aquaculture Economics & Marketing**

**Business loan proposal.** Students working in separate groups will prepare business loan proposals that include details such as species to cultured, production system, site location, market analysis, balance sheet, income statement, enterprise budget, and cash-flow budget. The entire business proposal will be included in the portfolio. Each group also will prepare a written analysis from the perspective of a lending institution regarding another group's proposal. The written analysis will be included in the portfolio. Satisfies SAFHS Goals 1 and 3.

**AQFI 4336 - Aquatic Animal Nutrition (2 projects)**

**Presentation with graphic display.** Students will create and present a 10-15 minute presentation on a subject chosen by the student and approved by the instructor. The assignment includes the preparation of an abstract of the subject matter of the presentation. The presentation itself should include some form of graphic display including overhead transparencies, slides, a poster, and/or Powerpoint presentation. The abstract of the presentation will be included in the student's portfolio.

**Nutrient requirement calculations.** Students will be given written exercises in which they have to calculate nutrient requirements of different fish species using data tables from various sources. One of these will be included in the portfolio. Satisfies SAFHS Goal 5 and 6.

**Note:** In any given semester, portfolio projects are subject to change without notice at the discretion of the instructor. This may be particularly true for projects that involve field collections, which are subject to constraints imposed by weather, equipment, and other factors beyond the instructor's control.