

## **AQFI Undergraduate Course Descriptions**

### **AQFI 1102 TOPICS IN AQUACULTURE AND FISHERIES (1 credit)**

An introductory course that exposes the student to the broad spectrum of careers in the fields of aquaculture and fisheries biology. Guest speakers and off-campus visits are emphasized. Recommended for first-term freshmen who have declared an AQFI major. Lecture: 1 hour per week. No prerequisite. Offered fall term.

**Instructor: Eggleton**

### **AQFI 2253/2153 BIOLOGY OF FISHES (3 credits)**

Professionals in all fish-related fields must be able to spawn fish, keep fish healthy, understand how fishes interact with their environment, and recognize evolutionary relationships among fishes. Students learn about fish anatomy and physiology, and apply the concepts to real-world challenges facing fisheries biologists, hatchery managers, fish farmers, and administrators. Laboratory exercises include dissection and bench top experiments. Lecture: 2 hours per week. Laboratory: 2 hours per week. No prerequisite. Offered fall term.

**Instructor: Jones**

### **AQFI 2247/2147 FISHERIES TECHNIQUES (3 credits)**

An introduction to the methods and techniques used in the collection of fishes and fisheries data. The course will detail many of the standard techniques that a practicing fisheries manager would likely use during their career. Students are exposed to various sampling gears, analytical equipment, standard operating procedures, and considerations of using such equipment and procedures. Lecture: 2 hours per week. Laboratory: 2 hours per week. No prerequisite. Offered fall term.

**Instructor: Eggleton**

### **AQFI 2329/2129 AQUACULTURE (4 credits)**

An introduction to the principles and practices of aquaculture. Field trips to fish farms, processing plants, and research facilities are included. Laboratory exercises in fish disease, water quality assessment, and pond management are emphasized. Lecture: 3 hours per week. Laboratory: 2 hours per week. No prerequisite. Offered spring term.

**Instructor: TBD**

### **AQFI 2462 ICHTHYOLOGY (4 credits)**

An introductory course pertaining to the classification, taxonomy, identification, and distribution of selected freshwater and marine fishes. Lecture: 3 hours per week. Laboratory: 2 hours per week. Prerequisites: BIOL 1460 (Zoology) or AQFI 2253/2153 (Biology of Fishes). Offered spring term.

**Instructor: Jones**

**AQFI 2601, 2602, 2603 AQUACULTURE AND FISHERIES INTERNSHIP (6 credits)**

These credits can be earned by students enrolled in a bonafide internship in aquaculture or fisheries biology. The course is administered by the UAPB Career Services office in conjunction with the AQFI department. Prerequisite: Enrollment with Career Services and consent of the AQFI Undergraduate Coordinator. No coursework prerequisites; students must meet GPA requirement. Offered summer term.

**Instructor: Eggleton**

**AQFI 3329 LIMNOLOGY (3 credits)**

An introduction to aquatic biology and ecology. The physical and chemical aspects of inland waters as they pertain to aquatic plants and animals are emphasized. Lecture: 2 hours per week. Laboratory: 2 hours per week. Prerequisites: BIOL 1455 (Principles of Biology). Offered fall term.

**Instructor: Sinha**

**AQFI 3360 HATCHERY MANAGEMENT (3 credits)**

This course covers the principles of hatchery management that are applicable to many species of fish and invertebrates, including hatchery requirements and operation, broodstock selection, spawning, egg handling and incubation, nutrition and feeding, disease management, and transportation. Lecture: 3 hours per week. Prerequisites: AQFI 2329/2129 (Aquaculture). Offered spring term even years.

**Instructor: TBD**

**AQFI 3371 FISHERIES MANAGEMENT (3 credits)**

An extension of Fisheries Techniques AQFI 2247/2147. This course integrates the methods used to collect fish and fisheries data with techniques and approaches used to manage natural or "wild" fisheries. Methods of harvest and population manipulation are discussed as they pertain to addressing resource objectives for streams, lakes, reservoirs, and rivers. Case histories in fisheries management also will be reviewed. Lecture: 3 hours per week. No prerequisite. Offered spring term.

**Instructor: Eggleton**

**AQFI 4201 SENIOR SEMINAR (2 credits)**

A capstone seminar course that explores developments in aquaculture and fisheries biology. Includes relevant readings, class discussions, and group projects. Taught jointly with Agriculture and Human Science senior seminar courses. Lecture: 2 hours per week. Prerequisite: Aquaculture and Fisheries Sciences major with senior status. Offered spring term only.

**Instructor: Eggleton**

### **AQFI 4V00 SPECIAL PROBLEMS (1-3 credits)**

A directed readings, study, or research course that allows the student to explore in depth a particular topic of interest in aquaculture or fisheries biology.

Completed under the supervision of a faculty member. Prerequisite: Consent of the department chair and instructor. Offered fall, spring, and summer terms.

**Instructor: Eggleton**

### **AQFI 4322 ECONOMICS OF AQUACULTURE AND NATURAL RESOURCES (3 credits)**

Aquaculturists need understanding of the basic types of economic and financial analysis to learn to manage aquaculture businesses. Students will learn to develop, interpret, and utilize enterprise budgets, balance sheets, income statements, cash flow budgets, loan amortization, and investment analysis. The course will discuss current issues related to natural resources, the economic theory relevant to these issues, and the analytical methods used to estimate values for natural resources and to analyze policy alternatives.

Lecture: 3 hours per week. Prerequisite: AQFI 2329/2129 (Aquaculture).

Offered fall term even years.

**Instructor: Deb**

### **AQFI 4323 MARKETING AND PUBLIC RELATIONS IN AQUACULTURE AND RESOURCE MANAGEMENT (3 credits)**

Successful aquaculture businesses are those with effective market-driven strategies. Students will learn to apply key marketing concepts to develop marketing strategies, describe the margins, volumes, and product forms prevalent in major marketing channels, understand recent market trends, and understand the fundamentals of international trade in sea food and resulting trade conflict. A study of the theory and practice of public relations, how public relations operates in organizations, its impact on the public, and its functions in society. The course will also focus on concepts, issues, and principles in the practice; and models and theories guiding the practice. Lecture: 3 hours per week. No prerequisite. Offered fall term odd years.

**Instructor: TBD**

### **AQFI 4336 AQUATIC ANIMAL NUTRITION (3 credits)**

An overview of the metabolism and nutritional requirements of fishes and other aquatic animals. Subjects covered include proteins, carbohydrates, lipids, vitamins, minerals, and feed supplements. Basic biochemical concepts of nutrient utilization will be introduced and discussed, including details of practical diet formulation and feeding in select aquaculture species. Emphasis placed on differences between nutrient requirement and use of aquatic animals versus terrestrial ones. Lecture: 3 hours per week. Prerequisites: CHEM 1430 (Chemistry I). Offered fall term.

**Instructor: R. Lochmann**

**AQFI 4350 FISH GENETICS (3 credits)**

An overview of fish genetics with emphasis on practical applications for aquaculture and fisheries. Students will learn about heredity and the resulting physical traits, and will also explore genetic manipulation as it applies to aquaculture and fisheries. Population genetics of natural and aquaculture species will also be discussed. Lecture: 3 hours per week. Prerequisites: BIOL 1455 (Principles of Biology). Offered spring term odd years.

**Instructor: TBD**