



**KENTUCKY STATE
UNIVERSITY**

AQUACULTURE (AQU)

AQU 201: Fisheries & the Educ. Consumer

This course is intended as an elective for undergraduate students who have no training in fisheries, but wish to become educated consumers. It will provide a general understanding of fisheries for students unfamiliar with the discipline and will highlight the importance of aquaculture. STEM and sustainability concepts will be combined with the multi-disciplinary nature of fisheries as an applied science. The course will integrate current events and scientific principles associated with fisheries and agriculture to enhance enduring life skills.

Credit Hours: 3

Contact Hours: 3

AQU 407: Fish Genetics

An overview of fish genetics including basic principles and methods of selective breeding in aquaculture.

Prerequisite: Consent of instructor

Credit Hours: 3

Contact Hours: 3

AQU 409: Biostatistics

Basic principles of experimental design and data analysis with emphasis on their applications in aquaculture research.

Prerequisite: Consent of instructor

Credit Hours: 3

Contact Hours: 3

AQU 410: Fish Diseases Laboratory

This course introduces students to proper microscope use and how to identify various fish parasites, bacteria and viruses, and plausible disease treatments. Writing will be emphasized through lab reports.

Credit Hours: 1

Contact Hours: 1

AQU 411: Fish Diseases

Clinical diagnosis of fish diseases; necropsy of diseased fish; and formulation of corrective measures for disease control. (Three hours of lecture, two hours of laboratory per week)

Prerequisite: Consent of instructor

Credit Hours: 3

Contact Hours: 3

AQU 412: Fish Morph and Physiology

An overview of fish morphology and physiology with emphasis on comparative and adaptive aspects among Osteichthyes (true bony fish). (Three hours of lecture, two hours of laboratory per week)

Prerequisite: Consent of instructor

Credit Hours: 4

Contact Hours: 3-5

AQU 413: Aquatic Ecology

This course investigates the interaction of aquatic organisms with their biotic and abiotic environment. Sampling and laboratory methods of limnological; analysis will be covered. (Three hours of lecture, three hours of laboratory per week)

Credit Hours: 4

Contact Hours: 3-4

AQU 414: Basics of Fish Diseases

Students are introduced to bacteria, parasites, viruses, and environmental factors that cause disease in aquatic animals. Prevention, identification, and treatment of these diseases are included (Course intended for non-aquaculture majors.)

Credit Hours: 3

Contact Hours: 3

AQU 416: Computer App in Statistics

This course will teach students how to use Microsoft Excel and SAS to solve statistical problems in biology, environmental sciences, economics, and business/MBA. Students will learn how to develop statistical models and implement them using software and interpret the corresponding results.

Prerequisite: Successful completion of an upper division statistics course is recommended

Credit Hours: 1

Contact Hours: 1

AQU 421: Fish Nutrition

Fundamental and applied aspects of fish nutrition including nutrient requirements, nutrient chemistry, ration formulation, and practical feeding will be taught. (Three hours of lecture per week)

Prerequisite: Consent of instructor

Credit Hours: 3

Contact Hours: 3

AQU 422: Princ of Aquaculture

Introduction to principles underlying aquatic productivity and management with a survey of domestic and foreign cultures of fish and aquatic vertebrates.

Credit Hours: 3

Contact Hours: 3

AQU 425: Aquaculture Econ/Marketing

Aquaculture economics, marketing channels and consumer preferences for fish products will be presented. (Three hours of lecture, two hours of laboratory per week)

Prerequisite: MAT 120 or MAT 125 or consent of instructor

Credit Hours: 4

Contact Hours: 5

AQU 427: Fish Reprod/Spawning Tech

An overview of basic biology of fish reproduction and techniques of artificial spawning for common aquaculture species.

Credit Hours: 3

Contact Hours: 3

AQU 428: Fish Reproduction Labs

AQU/BIO 427 may be taken concurrently. This course will provide practical training and skills on investigation of reproductive system in fish and spawning techniques for several aquaculture species.

Credit Hours: 1

Contact Hours: 1

AQU 451: Survey of Prod Methods

An overview of alternative production methods including ponds, cages, net/pens, raceways, and recirculating systems with application to suitable species. (Three hours of lecture per week)

Prerequisite: AQU 422 or consent of instructor

Credit Hours: 3

Contact Hours: 3

AQU 452: Aquaponics

An overview of the Aquaponic production systems including the aquaculture and hydroponic components, as well as their interactions and management.

Credit Hours: 3

Contact Hours: 3

AQU 460: Water Quality Management

A survey of theory and practice into the understanding and manipulation of the biological, chemical, and physical aspects of water quality in aquaculture production.

Prerequisite: Consent of instructor

Credit Hours: 3

Contact Hours: 3

AQU 461: Water Quality Management Lab

AQU 461 teaches students basic water quality principles related to pond management. Laboratories include use of equipment and analytically solving water quality problems.

Credit Hours: 1

Contact Hours: 1

AQU 480: Intro to Geog Inform Syst

This course provides basic instruction in mapping technologies to enable natural resource staff, students, local and state government personnel to enhance their planning and resource management skills.

Credit Hours: 3

Contact Hours: 3

AQU 490: Internship: Aquaculture

Credit Hours: 1-3

Contact Hours: 1-3

AQU 491: Internship Aquaculture

Intensive experience involving practical on/site participation working at an aquaculture facility (University, state, or private).

Prerequisite: Consent of advisor

Credit Hours: 1-4

Contact Hours: 1-4