



**KENTUCKY STATE
UNIVERSITY**

AQUACULTURE (AQU)

AQU 101: Intro to Aquatic Science

Introduction to Aquatic Science is a multidisciplinary online course in which students examine marine and freshwater aquatic systems, their properties, the diversity of aquatic life, and associated ecological principals. Students will develop awareness of the scientific method, issues facing aquatic systems, and the diversity of disciplines associated with careers in aquatic science.

Credit Hours: 3

Contact Hours: 3

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 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 421: Fish Nutrition

An overview of applied aspects of fish and shrimp nutrition including digestive physiology, nutrient requirements, nutrient chemistry, practical feedstuffs, feed formulation, and feed manufacture. (Three hours of lecture per week).

Prerequisite: CHE 200; MAT 115 or 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 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 470: Recirculating Aquaculture

Credit Hours: 3

Contact Hours: 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