

Course Title:	Aquaculture II
Grade(s):	11th/12th

Course Description
This course provides a continued overview of the aquaculture industry started in Aquaculture I. Aquariums and commercial aquaculture equipment, both in the classroom and aquaculture laboratory, will be utilized to study the design and operation of aquaculture systems and water quality in various areas of the aquaculture industry. Students enrolled in this course will also be responsible for maintaining the school's aquaculture lab on a weekly basis.
Approved Curricular Materials/Textbook(s)

Unit Title	Unit Description (Include Unit Objectives)	Unit Pacing
Unit 1: Crawfish, Shrimp, and Prawn Industries	This unit is designed to give students an overview of the crawfish, shrimp, and prawn industries. Students will: • Explain the production and management processes of raising these species in the aquaculture industry • Learn about the lifecycle of the species for breeding and production purposes • Explore water quality requirements for these species • Identify anatomical characteristics specific to these species • Identify common species of crawfish, shrimp, and prawn	2 weeks
Unit 2: Diseases Common in the Industry	This unit is designed to explore diseases commonly seen in the aquaculture industry.	2 weeks

	Students will: • Identify common diseases found in the industry based on their symptoms • Develop treatment plans for specific diseases • Explore different ways medication can be administered to fish • Research the use of vaccines in the aquaculture industry • Determine best practices in the aquaculture industry to maintain biosecurity	
Unit 3: The Baitfish Industry	This unit is designed to give students an overview of the baitfish industry. Students will: • Explain the production and management processes of raising baitfish species in the aquaculture industry • Learn about the lifecycle of the species for breeding and production purposes • Explore water quality requirements for these species • Identify anatomical characteristics specific to these species • Identify common species of baitfish • Explore baitfish use and regulations across the United States	2 weeks
Unit 4: The Koi Industry	This unit is designed to give students an overview of the koi fish industry. Students will: • Explore the history and development of Koi fish • Explain the production and management processes of raising koi fish species in the aquaculture industry • Learn about the different characteristics of various koi fish varieties • Explore water quality requirements for koi fish • Evaluate koi fish to determine quality	2 weeks
Unit 5: Reproduction and Spawning of Fish	This unit is designed to explore different types of reproduction and spawning methods seen throughout the industry. Students will: • Learn vocabulary specific to reproduction and spawning • Compare and contrast live bearers and egg layers	2 weeks

	• Identify the equipment used in the reproduction and spawning of fish • Design and implement a breeding plan for an ornamental species of fish	
Unit 6: The Shellfish Industry	This unit is designed to give students an overview of the shellfish industry, focusing heavily on the shellfish industry in Connecticut. Students will: • Explain the production and management processes of raising shellfish species in the aquaculture industry • Learn about the lifecycle of the species for breeding and production purposes • Explore water quality requirements for these species • Identify anatomical characteristics specific to these species • Identify common shellfish species seen in the aquaculture industry • Tour a Connecticut oyster farm • Identify diseases that specifically affect shellfish in Connecticut	2 weeks
Unit 7: Production of Exotic Species	In this unit, students will explore the production methods of various species less commonly seen in the aquaculture industry that still play an important role in the industry. Students will: • Explain the production and management processes of raising these species in the aquaculture industry • Learn about the lifecycle of the species for breeding and production purposes • Explore water quality requirements for these species • Identify anatomical characteristics specific to these species	2 weeks
Unit 8: Aquaculture Nutrition Concepts	In this unit, students will explore the importance of nutrition in the aquaculture industry. Students will: • Identify different types of feeds commonly used in the industry • Explore production methods for feeds • Learn to read feed/nutrition labels	2 weeks

	• Calculate feed rations	
Unit 9: Aquaponics	In this unit, students will learn about the role aquaponics plays in the aquaculture industry. Students will: • Explore the sustainability of aquaponics • Compare and contrast different types of aquaponics systems • Identify plant and fish species commonly raised in aquaponics systems • Design a small-scale aquaponics system	3 weeks