

# Santa Monica College Sustainable Aquaculture Technology AS

**Effective Fall 2026**

The Associate of Science in Sustainable Aquaculture Technology program at Santa Monica College provides students with the knowledge and hands-on experience needed to pursue careers in the growing field of aquaculture. This program covers key areas such as ecology and sustainability, systems design, sustainable fish farming, shellfish and seaweed cultivation, marine ecosystem management, microbial ecology in aquaculture, genetics in aquaculture, and special topics on sustainable aquaculture technology. Students will learn about water quality management, invertebrate and vertebrate health, rare species cultivation, hatchery and propagation operations, biosecurity, and food safety practices while gaining practical skills through laboratory work and practical work experiences. Graduates will be prepared to work in various sectors, including fish farms, hatcheries, environmental agencies, and marine/aquaculture-focused research institutions.

## Program Highlights

- Comprehensive curriculum that is industry-aligned, emphasizing aquaculture techniques and design for algae, shellfish, and finfish in open water off-shore applications and onshore recirculating aquaculture systems (RAS)
- Experiential learning through practical laboratory work, internships, and fieldwork
- Engage students with local aquaculture operations and industry experts to provide networking opportunities

## Program Learning Outcomes:

Analyze historical and current aquaculture practices to propose sustainable strategies that account for environmental, ecological, and global climate factors.

Demonstrate readiness for the aquaculture workforce by applying breeding, cultivation, and harvesting methodologies to effectively manage the production of aquatic species.

Develop problem-solving skills to address challenges in aquaculture operations, such as disease management, resource optimization, and sustainable farming practices, by applying research principles and innovative approaches.

Integrate fundamental business and management principles to support the efficient operation and growth of aquaculture enterprises.

Demonstrate professional work habits, technical competencies, and adherence to safety protocols through hands-on aquaculture experiences in real or simulated workplace settings.

## Core Aquaculture Requirements

**Units: 15.0**

AQUA 1 Introduction to Aquaculture: History, Ecology and Sustainability	3.0
AQUA 2 Applications in Aquaculture - System Design, Monitoring and Maintenance	4.0
AQUA 3 Microbiology and Genetics for Aquaculture	4.0
AQUA 4 Husbandry and Life Support in Aquaculture and Aquarium Science	2.0
AQUA 5 Advanced Topics in Aquaculture	2.0

## Elective 1

**Units: 4.0-6.0**

*It is highly recommended that students complete BIOL 15.*

BIOL 15 Marine Biology with Laboratory	4.0
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OR

## Two classes, one from each group

### Group 1

BIOL 9 Environmental Biology	3.0
BIOL 10 Applied Ecology and Conservation Biology	4.0
BUS 55 Southern California's International Connections and Blue/Ocean Economy	3.0
ENGR 11 Engineering Graphics and Design	3.0

AND

### Group 2

BIOL 15N Marine Biology (Non-Laboratory)	3.0
GEOL 31 Introduction to Physical Oceanography	3.0

## Elective 2: Select one course

**Units: 2.0-3.0**

*\*Note: AQUA 10A or industry equivalent. Credit for prior learning may be granted for students who hold recognized industry certifications. Acceptable documentation includes: NAUI Master Diver or equivalent; or NAUI Advanced Diver plus Rescue Diver certifications; or any dive certification combined with AAUS certification or equivalent; or First Aid/CPR*

*certification equivalent to those issued by the American Heart Association, Red Cross, or comparable agencies. Please contact the life sciences department or counseling for more information.*

AQUA 10A SCUBA (same as: KIN PE 49D)	2.0
OR	
HEALTH 11 First Aid and Cardio-Pulmonary Resuscitation	3.0

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**Elective 3: Select one course** **Units: 1.0-3.0**

AQUA 88B Independent Studies in Aquaculture	2.0
AQUA 90A Aquaculture Internship	1.0
AQUA 90B Aquaculture Internship	2.0
AQUA 90C Aquaculture Internship	3.0

**Total Units: 22.0-27.0**